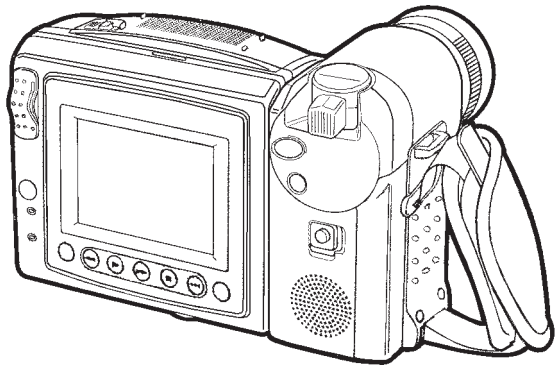
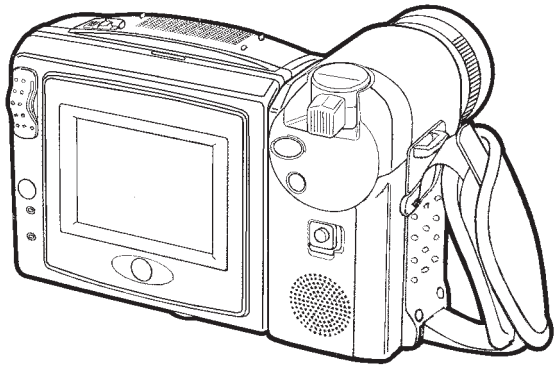
SHARP SERVICE MANUAL

S69I1VL-H860S



VL-H860S/H/H94E



VL-H870S/H890S/H96E/H960E

LIQUID CRYSTAL CAMCORDER Hi 8 PAL

VL-H860S/H
VL-H870S
VL-H890S
VL-H94E
VL-H96E
MODELS VL-H960E

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

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SERVICE MANUAL LIQUID CRYSTAL CAMCORDER Hi 8 PAL MODELS VL-H860S/H/H870S/H890S/H94E/H96E/H960E

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

1. SPECIFICATIONS

Signal System:	PAL standard
Recording System:	2 rotary heads, helical scanning system
Cassette:	8 mm video tape, MP type or Hi8 MP, ME type
Recording/Playback Time:	90 minutes (P5-90)
Tape Speed:	20.051 mm/second
Pickup Device:	1/4" (6.4mm, effective size: 4.5 mm) CCD image sensor (with approx. 470,000 pixels including optical black)
Lens:	22 × power zoom lens (F1.6, f=4.0-88.0 mm) and full-range auto focus
Lens Filter Diameter:	46 mm
Monitor:	3" (7.5 cm) (VL-H860S/H/H870S/H94E/H96E) 3.5" (8.8 cm) (VL-H890S/H960E) full-color LCD screen (TFT active matrix)
Microphone:	Electret stereo microphone
Color Temperature Compensation:	Auto white balance with white balance lock
Minimum Illumination:	5 lux* (with gain-up, F1.6)
Video Output Level:	1.0 Vp-p 75-ohm unbalanced
Audio Output Level:	–8 dBs, impedance less than 2.2 kohms
Speaker Output:	200 mW
External Microphone Input:	3.5 mm diameter mini-plug, –66 dBs, output impedance 6.8kohms, DC 4 V, for plug-in-power microphone use
Power Requirement:	DC 7.4V
Power Consumption:	4.95W (VL-H860S/H/H870S/H94E/H96E) 5.3W (VL-H890S/H960E) (during camera recording in full auto mode with zoom motor off, Extend Zoom, DIS and Snapshot functions off, and backlight in normal mode)
Operating Temperature:	0°C to + 40°C
Operating Humidity:	30% to 80%
Storage Temperature:	–20°C to +60°C
Dimensions (approx.):	180 mm (W) × 112 mm (H) × 107 mm (D)
Weight (approx.):	740g (VL-H860S/H/H94E) 760g (VL-H870S/H96E) 765g (VL-H890S/H960E) (without battery pack, lithium battery, video cassette, and lens cap)

AC Adapter UADP-0304TAZZ

Power Requirement:	AC 110-240 V, 50/60 Hz
DC Output:	9.0 V
Power Consumption:	15 W
Dimensions (approx.):	68 mm (W) × 37 mm (H) × 130 mm (D)
Weight (approx.):	230 g

Battery Pack BT-L241

DC Output:	7.4 V
Dimensions (approx.):	40 mm (W) × 43 mm (H) × 54 mm (D)
Weight (approx.):	97 g

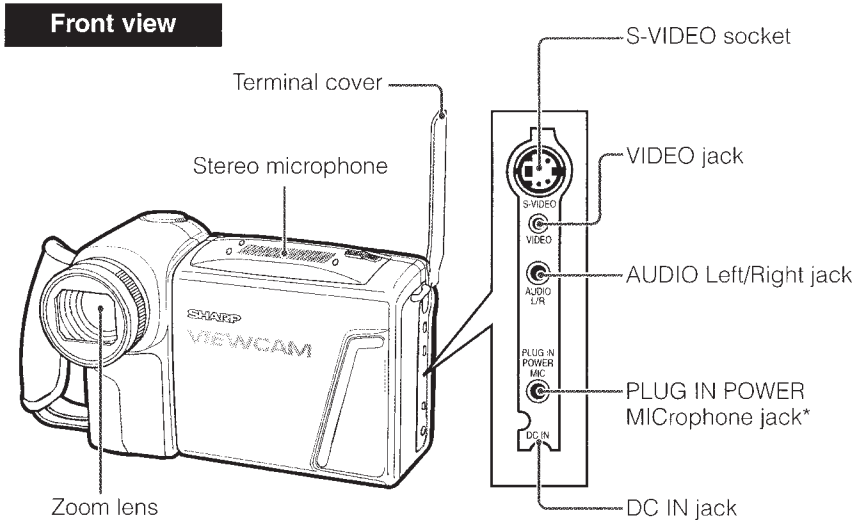
Specifications are subject to change without notice.

* Minimum illumination: Since there is no widely accepted testing procedure for determining minimum illumination capability, lux ratings are comparable only between models from the same manufacturer

2. PART NAMES AND FUNCTION

For details on the use of each control.

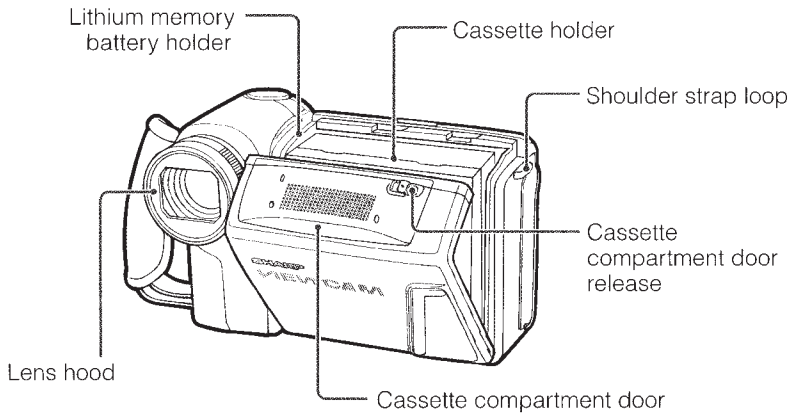
Front view



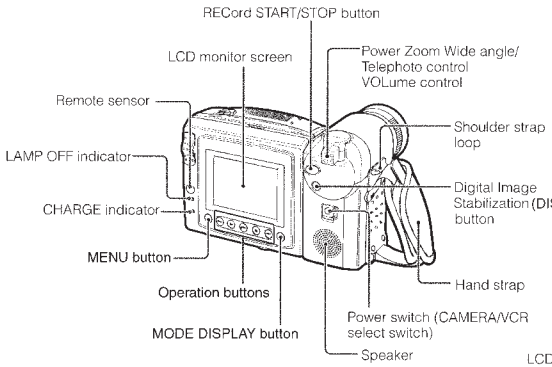
***About the PLUG IN POWER MIC jack**

This external microphone jack outputs a DC voltage of 4.0 volt. It is for use with any 2.5–4.0 volt DC use condenser-type microphone with a 3.5 mm diameter plug. The use of other types of microphones may result in damage to the microphone or the VIEWCAM.

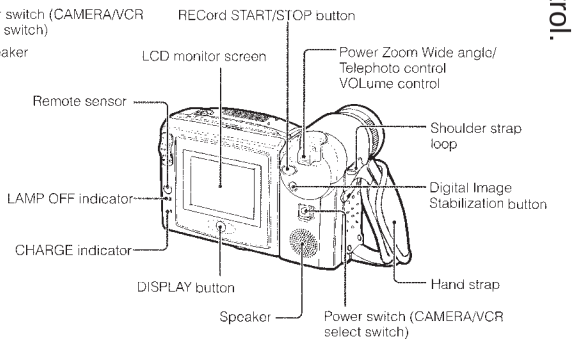
When the cassette compartment door is open



Rear view

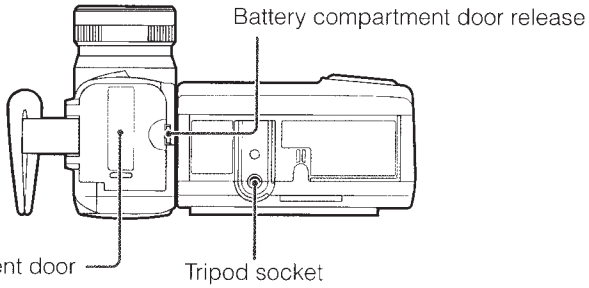


(VL-H860S/H/H94E)



(VL-H870S/H890S/H96E/H960E)

Bottom view



VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

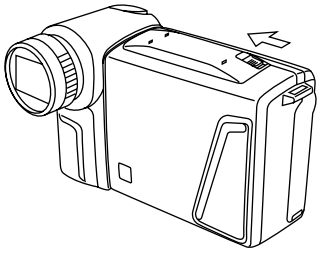
3. DISASSEMBLY OF THE SET

3-1. DISASSEMBLY OF THE VCR PARTS

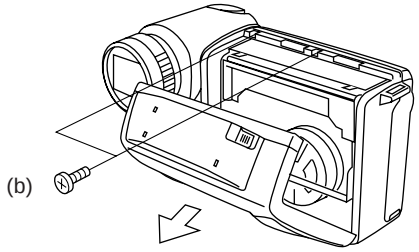
Note:

Before removing the cabinet, turn off the power supply, and ascertain that the battery has been removed.

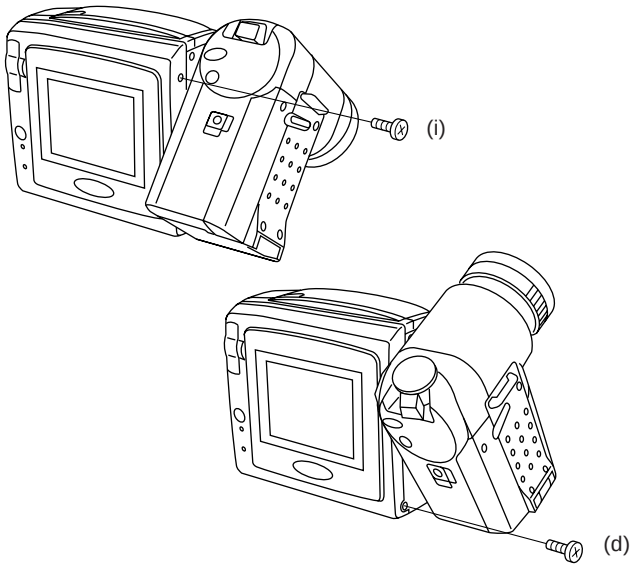
<1. Removal of the Cabinet L>



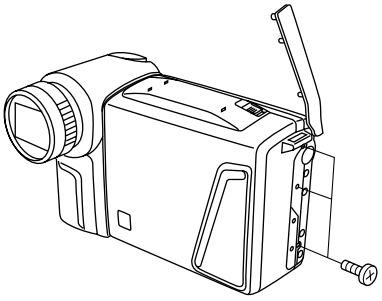
(1) Slide the VCR lid knob in the arrow direction, open the VCR lid.



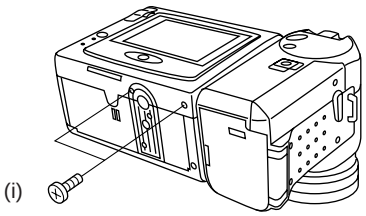
(2) Remove the screws (b)LX-HZ0018TAFF(2pcs.).



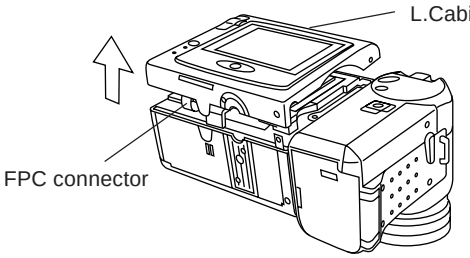
(3) Turn the Camera section, and remove the screws (i)XiPSN20P04000(1pc.), (d)XiPSF20P04000(1pc.).



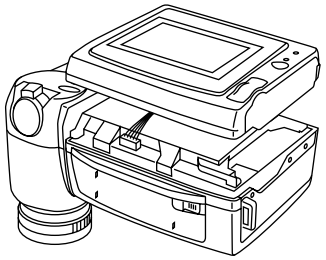
(4) Remove the A.V.terminal cover and the screws (i)XiPSN20P04000(3pcs.).



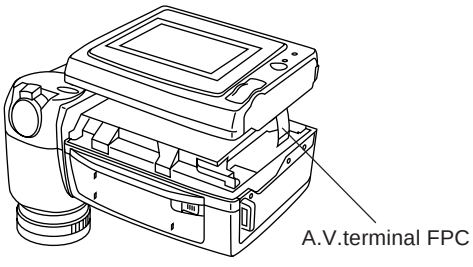
(5) Remove the screws (i)XiPSN20P04000(2pcs.).



(6) Close the VCR lid.
(7) Lift about half of the L.Cabinet parts in the arrow direction, remove the FPC connector.



(8) Remove the outside charging battery connector.



(9) Remove the A.V.terminal FPC.

Note:

The FPCs and the wires of process (7), (8), and (9) are connecting with the L.Cabinet, and remove the L.Cabinet while it is floating from the main body.

If the L.Cabinet is drawed violently, they have some apprehensions of snap off the wires.

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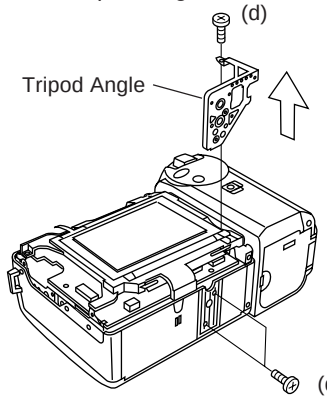
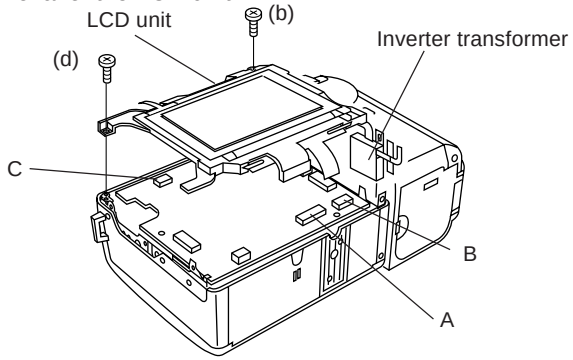
VL-H890S/VL-H94E
VL-H96E/VL-H960E

<2. Remove the Tripod Angle.>



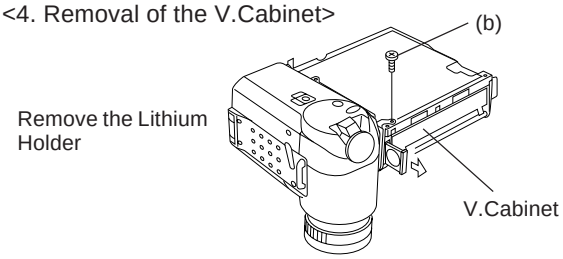
(1) Remove the screws (d)XiPSF20P04000(3pcs.), pull the Tripod Angle.

<3. Removal of the LCD unit>

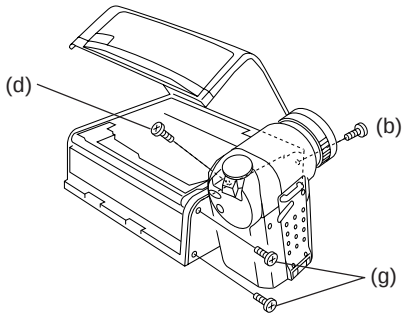


(1) Remove the FPCs from connectors A, B and C. ("C" isn't used with VL-H860S/H94E/EX.)
(2) Remove the screws (d)XiPSF20P04000(1pc.) and (b)LX-HZ0018TAFF(1pc.).

<4. Removal of the V.Cabinet>

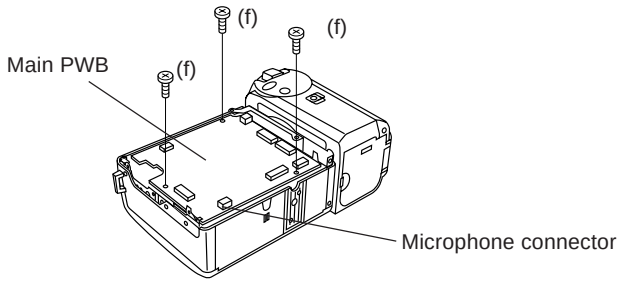


(1) • Firstly, remove the Lithium Holder.
• Turn to upside the surface of V.lid, remove the V.Cabinet fixing screw (b)LX-HZ0018TAFF(1pc.).



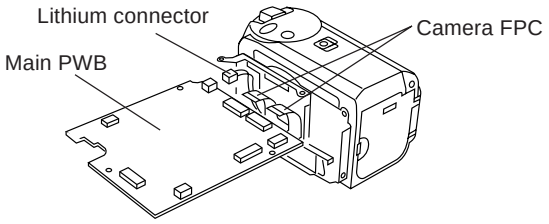
(2) Turn the Camera section to right angle, remove the Tilt side fixing screws (g)LX-HZ0045TAFF(2pcs.), the bottom side screw (b)LX-HZ0018TAFF(1pc.), open the VCR lid, and remove the slant wise screw (d)XiPSF20P04000(1pc.).

Note:
The Tilt section is setting with the parts of the Camera section . (Never remove the parts of Camera section only.)

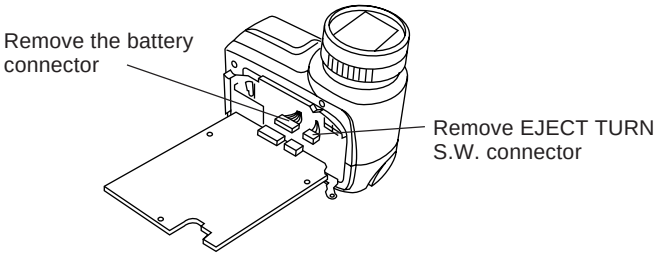


(3) Remove the Microphone connector.
Remove the main PWB fixing screws (f)XiPSD20P03000(3pcs.). Lift the main PWB in the arrow direction and remove the connection "B to B".

<5. Removal of the main P.W.B>

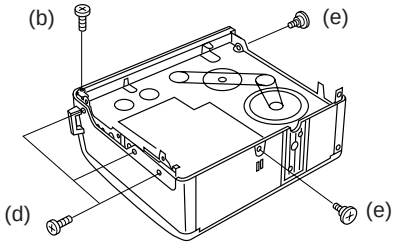


(1) Remove the Camera FPCs(2pcs.) are connected with main PWB and the Camera section, and remove the Lithium connector.

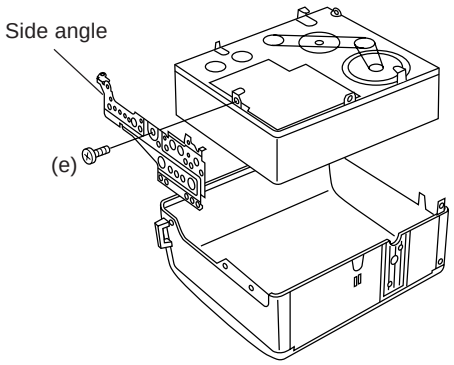


(2) The same as process 4., remove the battery connector in the reverse side of PWB and EJECT TURN S.W. connector, and disconnect the Tilt section and main PWB.

<6. Removal of the Cabinet and Mechanism>



(1) Remove the screws (b)LX-HZ0018TAFF(1pc.), (d) XiPSF20P04000(3pcs.) and (e)LX-BZ0191TAFD(2pcs.).



(2) Pull the Mechanism from K.S.V.Cabinet, remove the screw (e)LX-BZ0191TAFD(1pc.) and the side angle.

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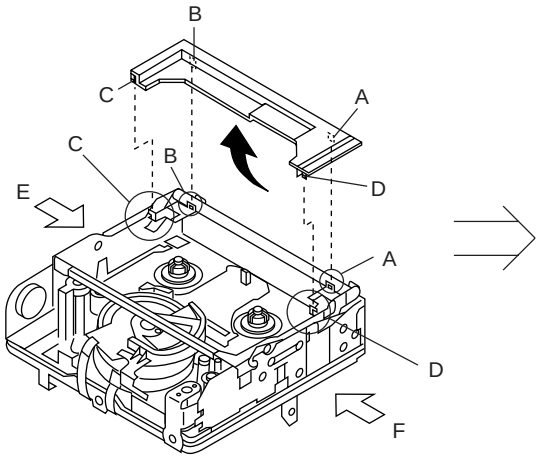
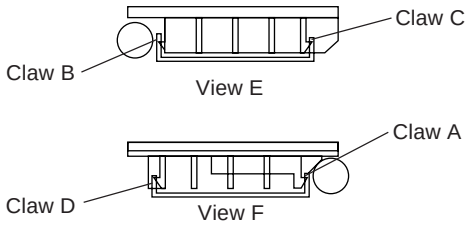
VL-H890S/VL-H94E
VL-H96E/VL-H960E

<7. Removal of the cassette compartment lid>



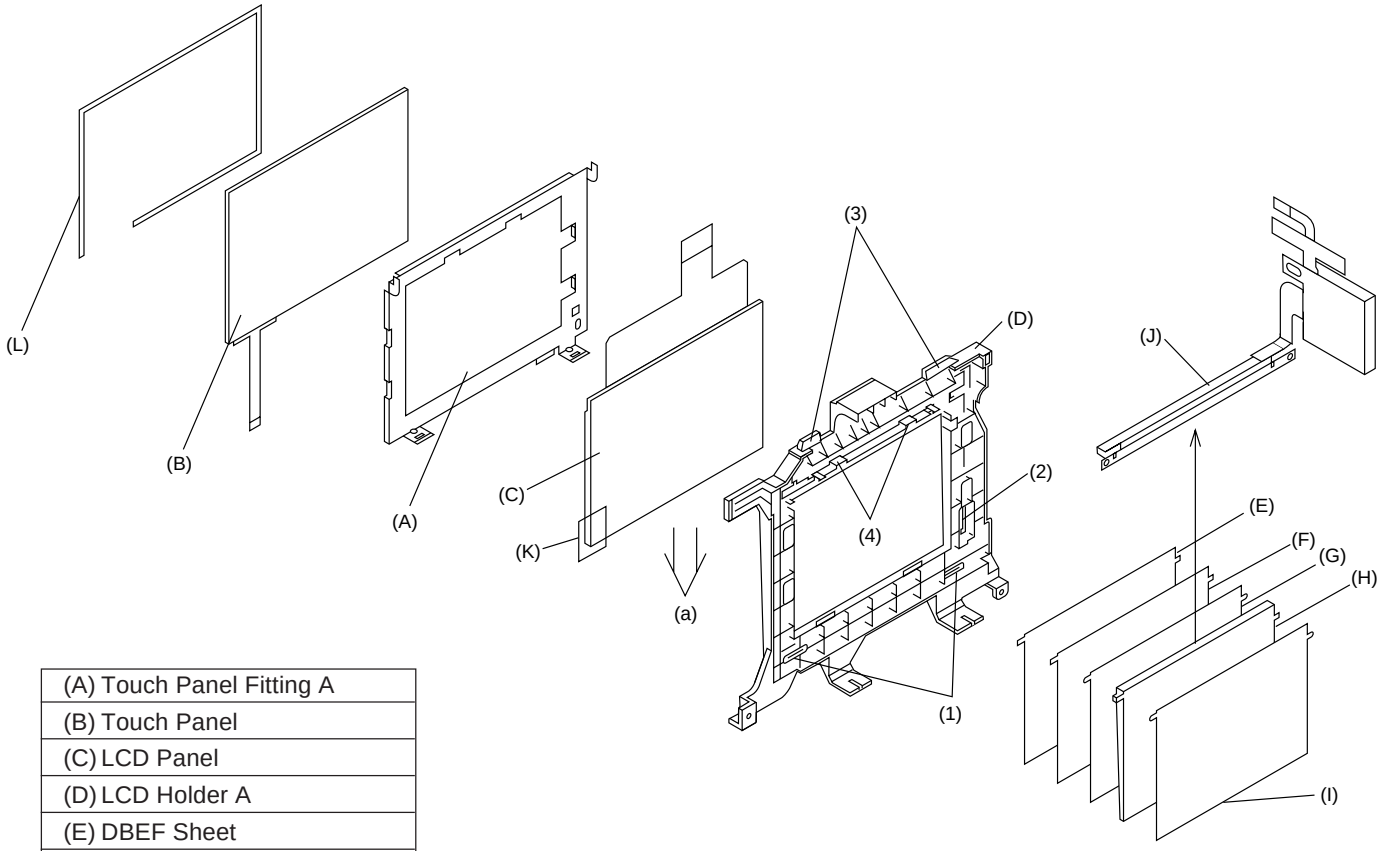
Note:
When fixing the cassette compartment lid, first engage the claws A and B, and then engage the claws C and D, verify that the four claws (A, B, C and D) of the cassette compartment lid are securely engaged as shown in the view below.



(1) Using the slotted precision screwdriver, push and turn the two claws (C and D) which fasten the cassette compartment lid, and the cassette compartment lid will be removed from the hook area of the cassette component.
(2) Turning the cassette compartment lid in the arrow direction, lift it, and the claws A and B will be disengaged to remove the cassette compartment lid.

Note:
Take care to prevent breaking the claws of the cassette compartment lid.

<8. Removal of LCD Unit>



(A) Touch Panel Fitting A
(B) Touch Panel
(C) LCD Panel
(D) LCD Holder A
(E) DBEF Sheet
(F) Prism Sheet
(G) Diffusion Sheet
(H) Light Guide Plate
(I) Reflection Polarizing Sheet
(J) Lamp Inverter
(K) LCD Holding Sheet
(L) Touch Panel Sheet

- At the time of removing from the LCD Holder A(D), and take off the hooks(1)(2pcs.).
- At the time of removing from the LCD Holder A(D), take off (K), remove the FPC from the hooks(3)(2pcs.), disengage the claw(2), and slide the LCD Panel(C) in the (a) direction to remove the LCD Holder A(D).
- At the time of removing from the LCD Holder A(D), remove the claws(4)(2pcs.).

- As for VL-H860S/H/H94E (A) (B) (L) (E) isn't used.

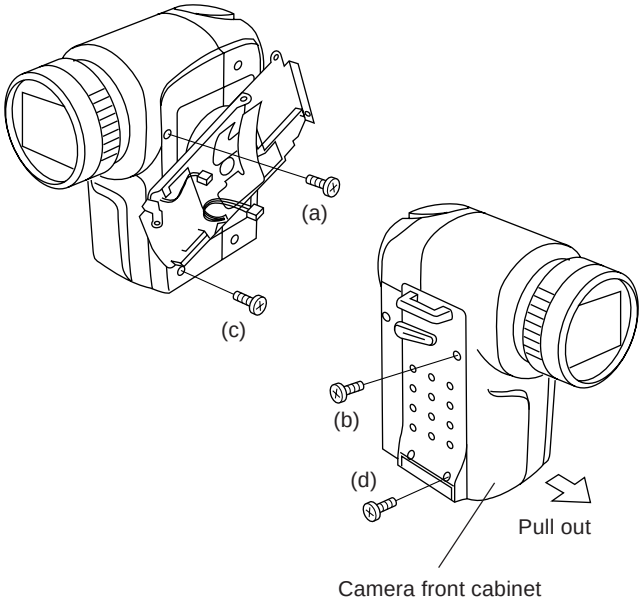
✱ Refer to the item CABINET EXPLODED VIEW about other parts.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

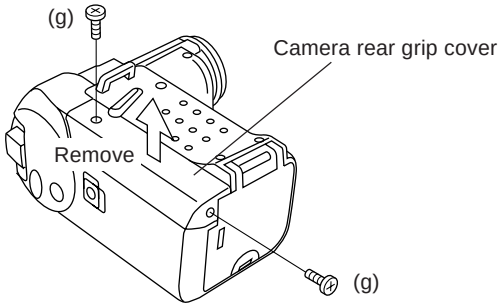
3-2. REMOVAL OF THE CAMERA PARTS

Note:

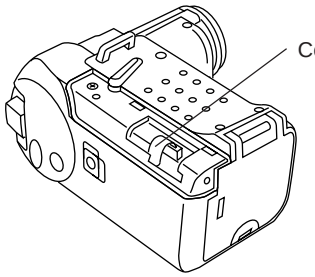
Before removing the Cabinet, turn off the power supply,and ascertain that the battery has been removed.



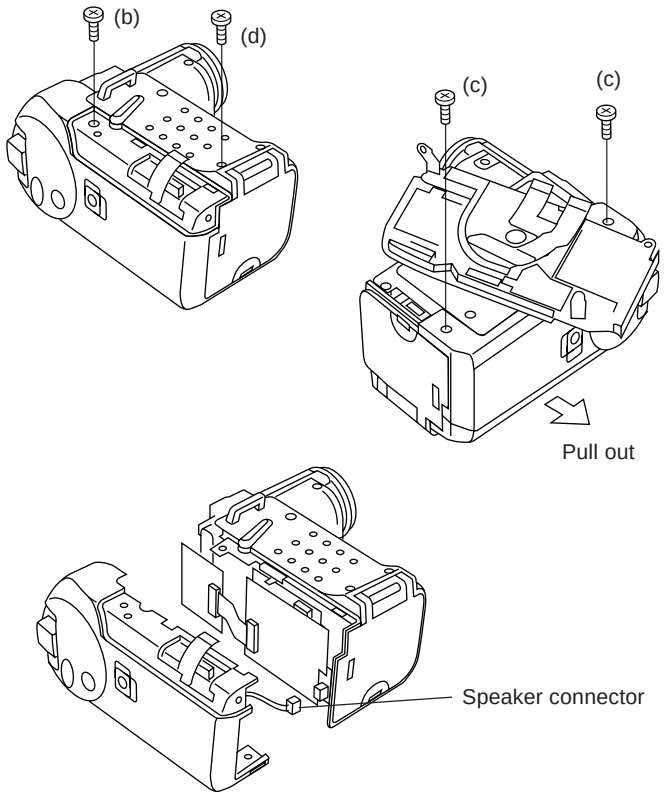
1. Remove the screws (b)LX-HZ0018TAFF(1pc.), (a)LX-HZ0018TAFN(1pc.),(c)LX-HZ0045TAFN(1pc.)and (d)XiPSF20P04000(1pc.), pull out the Front cabinet.



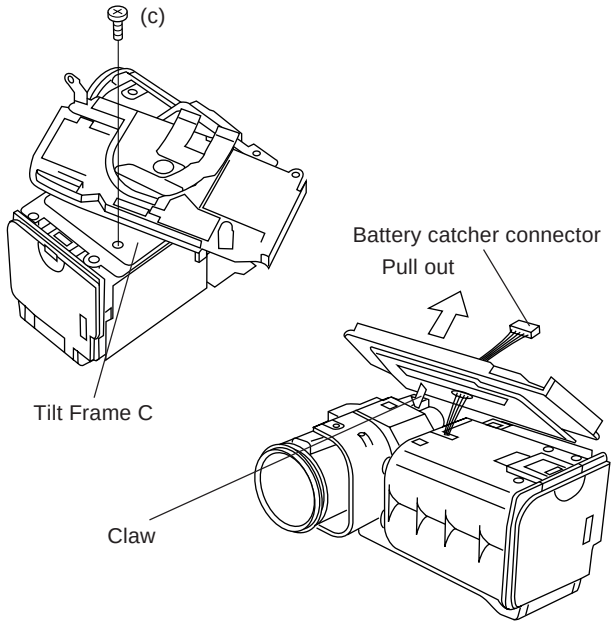
2. Remove the screws (g)LX-HZ0045TAFF(2pcs.) and the Camera rear grip cover .



3. Remove the connector.



4. Remove the screws(b)LX-HZ0018TAFF(1pc.),(c)LX-HZ0045TAFN(2pcs.) and (d)XiPSF20P04000(1pc.),pulling out the Camera rear Cabinet, and remove the Speaker connector.



5. Remove the screw (c)LX-HZ0045TAFN(1pc.) and pull out the Tilt Frame C.
   Pull out the Tilt Frame C. at right angle, because of closing the claw.
   Then, pull out the battery catcher connector from the Tilt Frame C.

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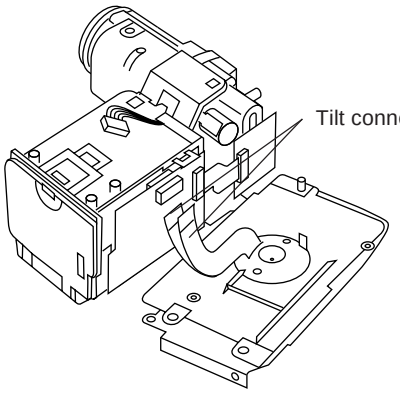
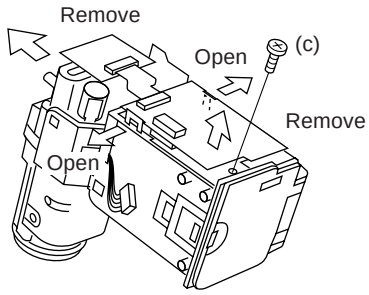
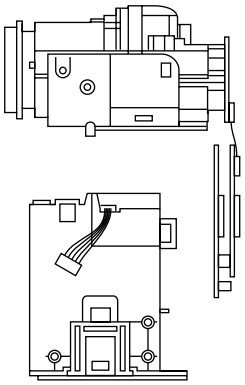
VL-H96E/VL-H960E

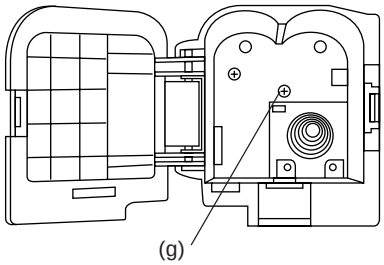


6. Remove the Tilt connectors(2pcs.) as the Tilt Frame C. are floating in the air.

Note:
Take care to prevent breaking the FPC when the Tilt Frame C. is removing from them.







7. Remove the screws (g)LX-HZ0045TAFF(1pc.) and (c)LX-HZ0045TAFN(1pc.), opening the claws(2pcs.) to outward, remove the Lens unit with Camera P.W.B.

Screws

a	LX-HZ0018TAFN	M2x6 Tapping Screw, Silver
b	LX-HZ0018TAFF	M2x6 Tapping Screw, Black
c	LX-HZ0045TAFN	M2x4 Tapping Screw, Silver
d	XiPSF20P04000	M2x4 Small Screw, Black Zinc Plating
e	LX-BZ0191TAFD	M2 Special Screw
f	XiPSD20P03000	M2x3 Screw
g	LX-HZ0045TAFF	M2x4 Tapping Screw, Black
h	LX-HZ0013TAFF	M1.7x6 Tapping Screw, Black
i	XiPSN20P04000	M2x4 Small Screw, Silver
j	LX-HZ0050TAFN	M1.7x4 Tapping Screw, Silver
k	LX-BZ0236TAFD	M2x8 Screw
l	XiPSF20P03000	M2x3 Screw, Black

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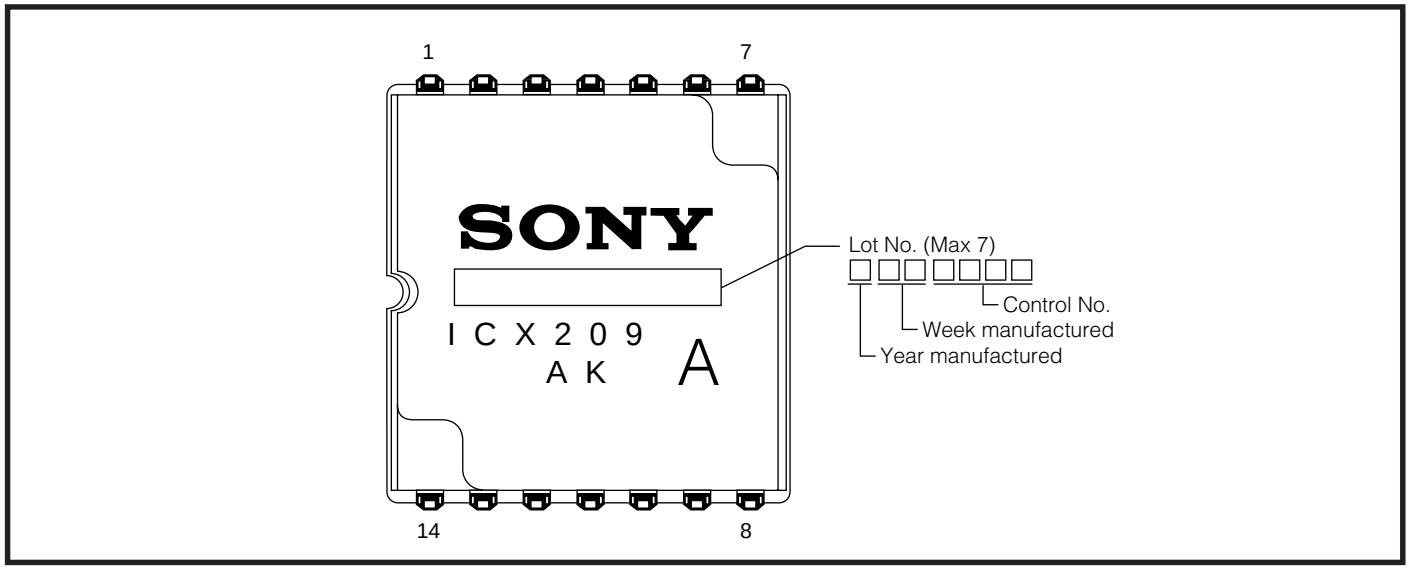
VL-H96E/VL-H960E

3-3. REPLACEMENT OF CCD SENSOR

3-3-1. Before replacement

1) The CCD image sensor is more sensitive to electrostatic breakage than C-MOS LSI. Therefore sufficient means to prevent electrostatic damage must be taken when it is replaced.
- Ground the soldering iron.
- Ground also the human body, using the wrist strap(through an 1 Mohm resistor).
- Until the CCDsensor is mounted on the PWB, fit it to the conductive sponge, and short-circuit the foot lead.

2) Take utmost care so that the surface glass of CCD sensor and optical filter are not contaminated and damaged. If any contamination is found, for example fingerprint, wipe it off with silicon paper or clean chamois skin.
3) When replacing the CCD sensor, use the antistaic grounded soldring iron, and perform quickly soldering.



3-3-2. Removal of CCD

1) Unsolder the CCD sensor leads from the sensor PWB.
2) Take out the sensor PWB.
3) Remove the two screws (b), and remove the sensor holder and CCD sensor.

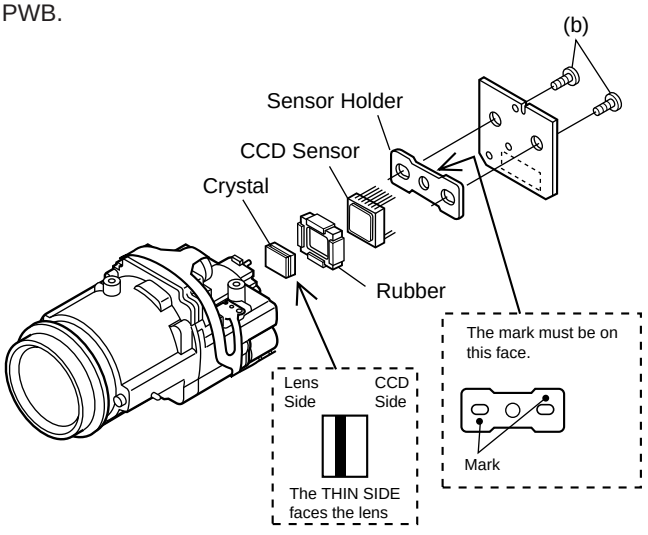
3-3-3. Mounting of CCD

1) Place the lens unit upright (since the CCD sensor mount ID faces upward, care must be taken so as not to damage the front lens of unit), put the crystal filter first and then the dust protection rubber into the CCD holder of lens unit. Set the crystal unit with its thin side toward the lens unit.
2) Place the CCD sensor so that the its No. 1 pin is at the right lower (Positioning hole to be at right), and put the CCD sensor into the CCD holder. For smooth and tight fitting, press the right lower part of back of CCD sensor, and then press the left upper part.

Note: Pay attention to the direction of CCD sensor.

3) Place the sensor holder so that its two round markings be visible, and fix the sensor holder with the two screws ((b)LX-HZ0013TAFF).
4) Mount the sensor PWB so that the CCD sensor leads go thorough the PWB holes.
5) Solder the CCD sensor lead to the sensor PWB.

Note: Take care not to apply excessive heat.



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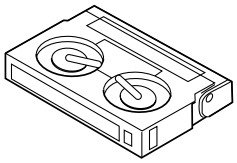
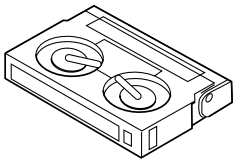
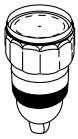
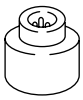
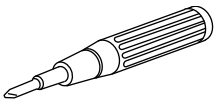
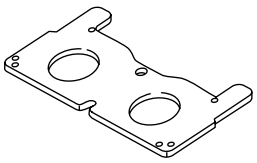
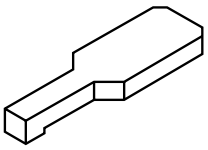
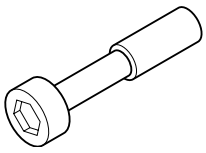
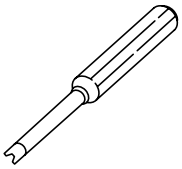
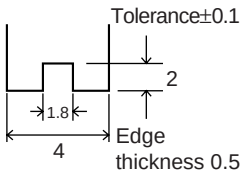
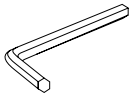
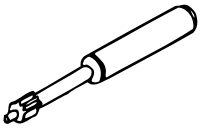
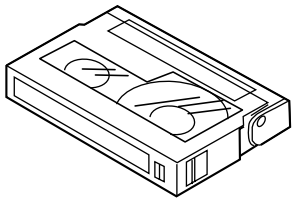
4. MECHANISM ADJUSTMENT

4-1. MECHANISM CHECKING/ADJUSTING JIGS, TOOLS AND PARTS

4-1-1. Mechanism checking/adjusting jigs and tools

Configuration
1. Name
2. Part No.
3. Code
* Model, Uses Remarks

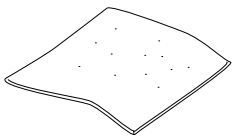
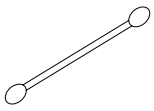
<Note: The entries of list>

 1. Cassette torquemeter for PB 2. JiG8T-012 3. CV * (10 g·cm/25 g·cm)	 1. Cassette torquemeter for VS-REW 2. JiG8T-032 3. CV * (50 g·cm/25 g·cm)	 1. Torque gauge 2. JiGTG0045 3. CN * For measurement of loading brake torque	 1. Torque gauge head 2. JiGTH-MX7U 3. BS * For torque gauge listed left	 1. Torque driver (1.5 kg·cm) 2. JiGTD1500RT0H 3. CB
 1. Master plane 2. JiGMP-MX7U 3. CG * For adjustment of Tu guide height, Si roller height and checking of reel disk height	 1. Height adjusting jig 2. 9DAGH-E31S 3. BM * For adjustment of Tu guide height and Si roller height	 1. Tu guide height adjusting driver 2. 9EQDRiVER-V712 3. BL	  1. Guide roller height adjusting driver 2. JiGDRiVERHMX7U 3. BU * Bit shape (See the figure above.)	
 1. Hex wrench 3. — * For loosening or tightening of Motor stator (1.3mm)	 1. Tension Band and Plate Adjusting Jig 2. JiGDRiVERMX7U2 3. BN	 1. Alignment tape 2. VR2DBOPS 3. BT TAPE CONTENTS VIDEO IMAGE / AUDIO / TIME MONOSCOPE / L-CH 400Hz / R-CH 1,000Hz / 30MIN		<Others> (1) Slide calipers (2) High-precision screwdrivers (Phillips head, slotted head) (3) Radio pliers (with thin jaws) (4) A pair of tweezers

4-1-2. Parts for periodic inspection and maintenance.

Configuration
1. Name
2. Part No.
3. Code
* Model, Uses Remarks

<Note: The entries of list>

1. Oil COSMOHYDRO HV100 * Cosmo Oil Co., Ltd.	1. Screw locking agent (1401B) * Three Bond	 1. Cleaning paper 2. JiGDUSPER 3. AP * Dusper ∑ (Sigma) (Ozu Co., Ltd.)	 1. Superfine swab * Commercially available item
1. Greases Morycoat YM-103/X5-6020 * Dow Coaning	1. Cleaning liquid (Industrial-use ethyl alcohol)		

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VL-H96E/VL-H960E

4-2. ITEMS AND TIMINGS OF INSPECTION AND MAINTENANCE

The mechanism of VCR needs the following periodic inspection and maintenance in order that it maintains its high quality. Also, after the machine is repaired, execute the following maintenance and checks regardless of how long it has been used.

4-2-1. Inspection and maintenance list

	Checking/Maintenance point	Usage time (hrs.) 500	1,000	1,500	2,000	3,000	Possible symptom encountered	Remarks
Tape travel system	Tape travelling route (Refer to Section)	□	□	□	□	□	• Lateral noise • Unclean head • Screen shaking	Rollers • If abnormal rotation or deflection (significant) is found, replace the roller. Other than rollers • Clean the tape contacting areas. Be sure to use the specified cleaning agent.
	Drum (Refer to Section)	□	□	□	□	□		
	Video head	□	□○	□	□○	□○	• Improper S/N ratio • No color appears.	
Driving system	Timing belt	—	★	—	★	★	• Tape does not run. • Tape slackens. • Screen shakes.	• Replace if failure is found.
	Pinch roller	□	□	□	□○	□		
	Capstan D.D. motor	—	○	—	○	○		
	Relay Pulle shaft Pulle gear shaft	—	Δ	—	Δ	Δ	• Abnormal sound	• Apply oil. (Oil : COSMOHYDRO HV100) Note: After oil is applied to the drive gear shaft, slightly wipe it off with swab.
	Drive gear shaft	—	Δ	—	Δ	Δ		
	Loading motor	—	★○	—	★○	★○	• Not ejectable • The specific mode cannot be set.	• Replace if failure (abnormal sound) is detected.
Performance check	Abnormal sound	★	★	★	★	★		• If conformance to the standard is not ensured, replace part.
	PB/VS-REW take-up torque	—	★	—	★	★		
	PB/VS-REW back tension torque	—	★	—	★	★		
	Tu brake	—	★	—	★	★		
	HC (Head Cleaner)	—	○	—	○	○		

Oil: COSMOHYDRO HV100
Greases: MORYCOAT YM-103/X5-6020
Screw locking agent: THREE BOND 1401B
Cleaning liquid: Industrial-use ethyl alcohol

○ : Replace.
□ : Clean.
Δ : Apply oil.
★ : Check.

4-2-2. Notes and cautions

(1) Any cut washers, once removed for parts replacement or for other reason, must be replaced with new ones.
(2) The mechanism of this VCR does not involve any volume adjustment. If the specified range is not satisfied, either cleaning or replacing the parts is required.
(3) Oils
  a) Be sure to use the specified oils (different viscosity may cause troubles).
  b) For the bearings, be sure to use oil that is free form dust and other foreign substances. (Dust or foreign substance contained in the oil may cause wear or seizure of the bearings.)
  c) A drop of oil represents the amount of oil which is held on the needle top as shown in the figure 1.
(4) The circuit repair must be executed without removing the V frame.
(5) For operating the mechanism alone, actuate it with the motor. The terminal-to-terminal voltage must be DC4V or less.
(6) When installing the cassette control, press the part A shown in Figure 2.
  *Do not press other parts.
(7) Take care so that the whole mechanism is not deformed.

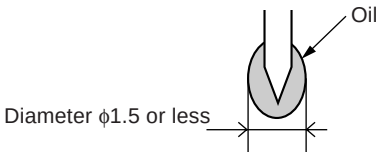


Figure 1

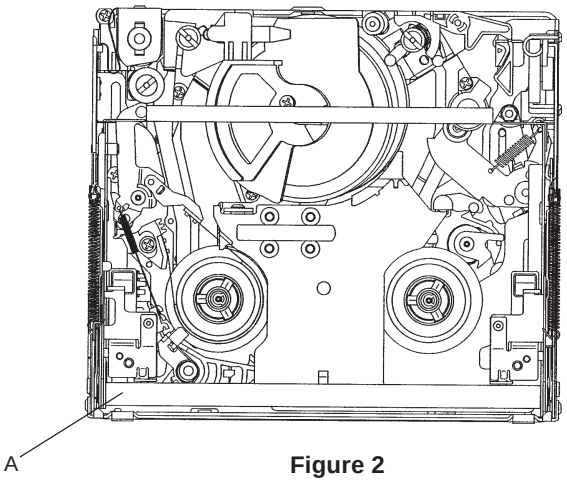


Figure 2

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

4-3. MECHANISM CHECKS AND ADJUSTMENTS

The description given below relates to the general field services, but does not relate to the adjustment and replacement that require high level equipments, jigs, and technical skills.
In order to maintain the initial characteristics of the machine, it is necessary to execute the maintenance and check and to prevent damage to tapes and other parts. For adjustments which need jigs, be sure to use the jigs.

Notes and cautions

(1) For mechanism checks and adjustments, be sure to use the AC adapter as the power supply.
(2) For running the tape, be sure to install the cassette control ass'y in advance. (If the cassette control ass'y is to be removed subsequently after its installation.)

4-3-1. Checking the reel disk height

(1) Remove the cassette control ass'y.
(2) Taking due care not to let the master plane touch the tape running areas such as the drum and the guide rollers, position the master plane so that the two guides (A and B in the figure 1) are set in the holes of master plane, then properly set it in the mechanism.
(3) Using the slide callipers or the like, check that the distance from the upper surface of master plane to the reel support surface of the S/Tu reel disk is within the specified range. (Figure 2)

Note:

When measuring, do not apply excessive force to the reel support surface of reel disk.

(4) If the measurement is not within the specified range, replace the reel disk ass'y.
(5) Check the items (2) to (4) above in the following two modes.
a) Standby mode
b) Playback (recording) mode

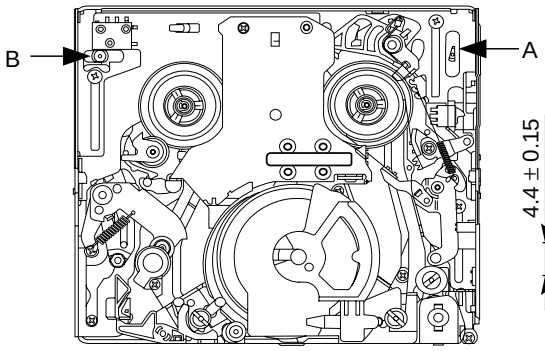


Figure 1

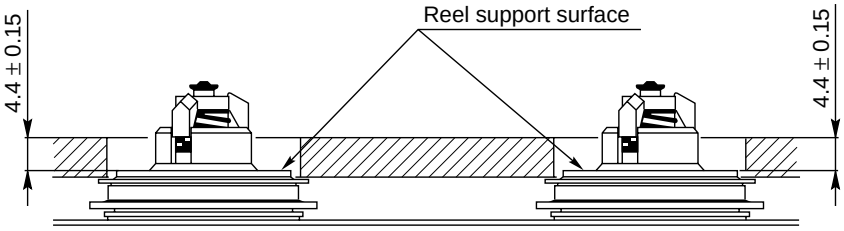


Figure 2

4-3-2. Checking the take-up torque for playback (recording)

(1) Set the torque cassette (JiG8T-012) in position, and check in the SP-mode recording mode (tape recorded in SP mode) that the torque at the tape taking-up side is within the standard range.

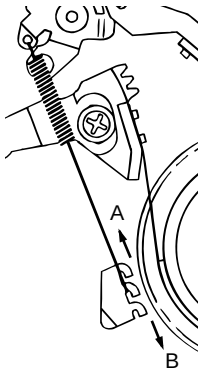
Standard of take-up torque for SP-mode recording (playback)

9 ± 3 g·cm with ripples less than 4 g·cm
(If the torque ripples appear, read the center value of torque between the ripples.)

4-3-3. Checking and adjusting the back tension torque for playback (recording)

(1) Checking
1) Set the torque cassette (JiG8T-012) in position, and check in the SP-mode recording mode (tape recorded in SP mode) that the torque at the tape supply side is within the standard range.
Standard of back tension torque for SP-mode recording (playback):
8 ± 2 g·cm with ripples of less than 2 g·cm
(Torque ripple must be within 8 ± 2g·cm)

(2) Adjustment
1) If the back tension torque is not within the standard range, adjust the tension spring hooking position. If the back tension is too high, hook the spring in the direction A. If the back tension is too low, hook the spring in the direction B.



Note:

1. After back tension torque adjustment be sure to check the tension pole position.

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VL-H96E/VL-H960E

4-3-4. Checking and adjusting the tension pole position

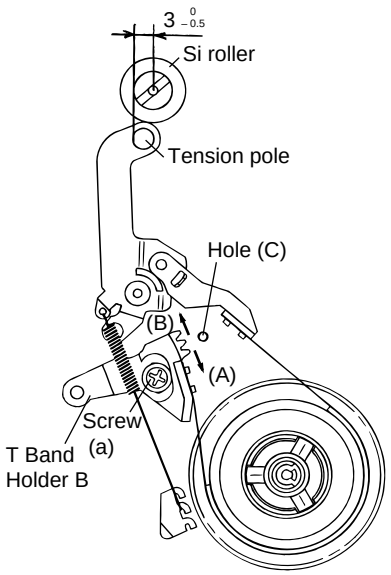
(1) Check

When winding of P5-90 tape is started, check whether the tension pole is in the specified position against Si roller as shown or not.

If it is not in the specified position, remove the cassette and adjust the position in the following procedure.

(2) Adjustment

1. Don't set up any tape, and select the PB mode. (Refer to Item 4-5-1-(4).)
2. Slightly loosen the screw (a) (to such a strength as the T band holder B can be moved).
3. If the tension pole is in the inner position than specified, dislocate the T band holder B in the arrow (A) direction and if it is in the outer position, dislocate it in the arrow (B) position. Then, tighten the screw (a). (For reference, dislocate it 0.4 to 0.8 mm outer from the position specified above.) For the position adjustment, it is convenient to use the position adjustment screwdriver (JiGDRiVERMX7U2). (Set it in the hole (C).)
4. Check the position in the "(1) Check" procedure described above.
5. If it is not in the specified position, repeat the adjusting procedure 1 thru 3.



Note:

- Tightening torque of screw (a) 70 mN·m
- To check the position, be sure to run the tape.
- If the cassette compartment assembly is removed, it makes the work easier. (Refer to Item 4-5-3.)

4-3-5. Checking the take-up torque for rewind playback (VS-REW)

(1) Remove the cassette compartment ass'y and set to the sensor OFF mode.

(2) Set the torque gauge (JiGTG0045) on the S reel disk, and check in the rewind playback (VS-REW) that the torque at the supply side is within the specified range.

Standard of take-up torque in rewind playback (SP mode)

31 ± 5 g·cm with ripples less than 5 g·cm.

(If the torque ripples appear, read the center value of torque between the ripples.)

4-3-6. Checking the back tension torque for rewind playback (VS-REW)

(1) Set the torque cassette (JiG8T-032) in position, and check in the rewind playback (VS-REW) mode that the torque at the tape take-up side is within the specified range.

Standard of back tension torque in rewind playback (SP mode):

14 ± 5 g·cm with ripples less than 5 g·cm

(If the torque ripples appear, read the center value of torque between the ripples.)

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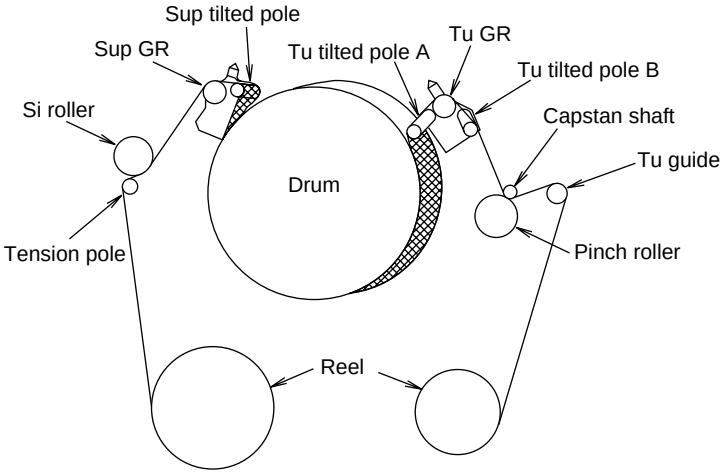
VL-H890S/VL-H94E
VL-H96E/VL-H960E

4-4. ADJUSTMENT OF MECHANISM TAPE TRAVEL SYSTEM

4-4-1. Preparation for adjustment

(1) Clean the tape running areas (guide poles, rollers, drum, Capstan shaft, Pinch roller) (Figure 1)
(2) Connect the oscilloscope to the following TPs.
RF output TL7406
H-SW-P TL7446
GND TL7452
(3) Playback the alignment tape (VR2DBOPS).
(4) Ascertain that each guide is free from remarkable curl.
(5) Ascertain that the RF waveform of inlet and outlet sides is flat on the oscilloscope (Figure 2, (a)). Unless the waveform is flat, (Figure 2, (b), (c)), make an adjustment as follows.



Tape travel system (Figure 1)

4-4-2. Adjusting the Sup GR and Tu GR

(1) Turn the Sup and Tu guide rollers to get the flat waveform at the inlet and outlet sides.

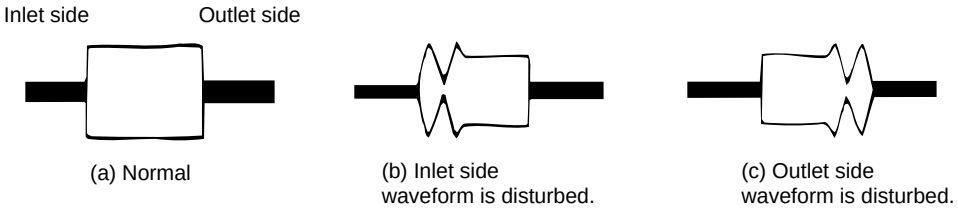


Figure 2

4-4-3. Adjusting the Si roller height

After replacement of Si roller preset and adjust the Si roller height.

(1) Si roller height presetting
Adjust the height from the upper surface ofmechanism chassis to the upper surface of lower flange with the aid of jig. Then lower it by 90° (clockwise).

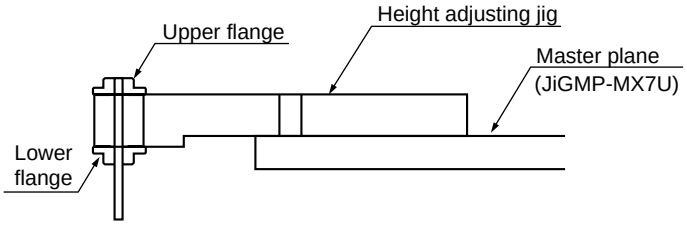


Figure 3

(2) Adjusting the Si roller
1 Playback the tape to set the V/SR mode.
2 Ascertain that the tape is not folded on the lower flange (B) of Si roller. (Figure 4)
If tape folding is found, turn the upper flange (A) of Si roller with the driver (clockwise) to eliminate the folding.
3 Playback the alignment tape (VR2DBOPS).
4 Adjust the Sup GR and Tu GR by the procedure described in section 4-2 above.
5 After V/S F,R perform playback so as to ascertain that the waveform rises horizontally within 2 seconds.
6 Unless the normal waveform is obtained (Figure 5), turn counterclockwise the upper flange (A) of Si roller, and repeat the step (5) above. Repeat the steps (5) and (6) until the normal waveform is obtained. At this time ascertain that the inlet travel does not change in the normal playback state. If any change is found, adjust the Sup GR, and redo the step (5).

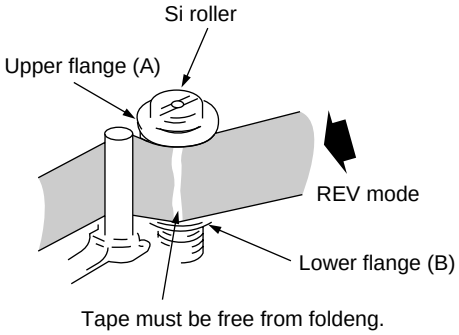


Figure 4

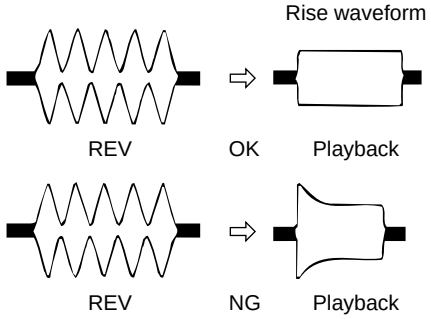


Figure 5

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

4-4-4. Adjusting the Tu guide

After replacement of Tu guide preset and adjust the height.

(1) Tu guide height presetting (Figure 6)

Adjust the height from the upper surface of mechanism chassis to the upper surface of lower flange with the aid of jig.

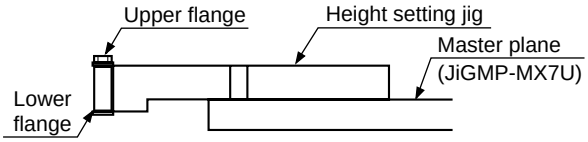


Figure 6

(2) Adjusting the Tu guide (Figure 7)

1 Playback the alignment tape (VR2DBOPS).

2 Check that the tape runs at the same height near the capstan shaft in case of V/S F and V/S R.

3 If the tape running position in case of V/S R is higher than the tape running position in case of V/S F, turn clockwise the Tu guide nat.
If the tape running position in case of V/S R is lower than the running position in case of V/S F, turn counterclockwise the Tu guide nat.

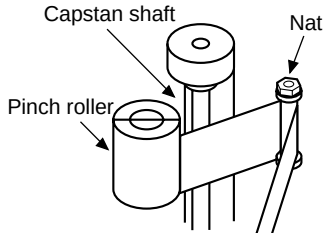


Figure 7

4-4-5. Checking the V/S F and R waveforms (Figure 8)

(1) Playback alignment tape (VR2DBOPS), and set the V/S R mode. At this time ascertain that the waveform crest pitch is kept constant for more than 5 seconds.

(2) Set the V/S F mode. At this time ascertain that the waveform crest pitch is kept constant for more than 5 seconds.
Unless the constant pitch is obtained, execute the checks of Section 4-2, 3, and 4.

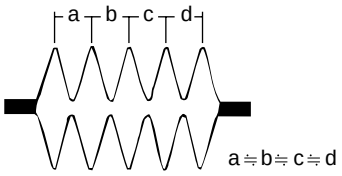


Figure 8

4-4-6. Checking after adjustment

(1) Envelope check

1 Playback the alignment tape (VR2DBOPS).

2 Ascertain that the envelope maximum to minimum ratio is 65% or more. (Figure 9)

3 Ascertain that the waveform does not change remarkably. (Figure 10)

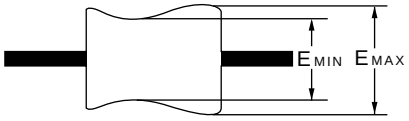


Figure 9 $\frac{E_{MIN}}{E_{MAX}} \geqq 65\ (\%)$

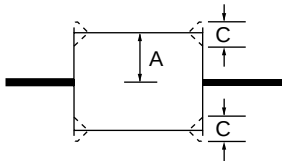


Figure 10 C≦1/8A

(2) Rise check

1 Playback the alignment tape (VR2DBOPS).

2 Once eject the cassette, and then load it again.

3 Set the playback mode, and ascertain that the RF waveform rises horizontally within 2 seconds. At this time ascertain that there is no tape slackness near the pinch roller.

4 After V/S F, R and FF/REW execute playback, and ascertain that the RF waveform rises horizontally within 2 seconds. At this time ascertain that there is no tape slackness near the pinch roller.

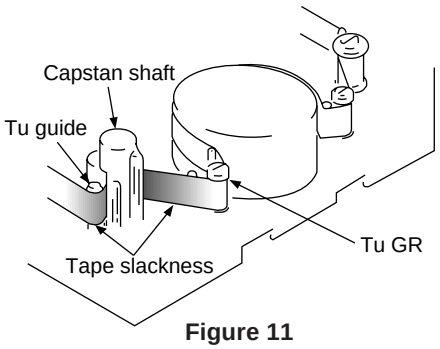


Figure 11

(3) Checking the tape travel

1 When the tape is played back, ascertain that tape lift and tape curl of 0.3 mm or more do not occur at the lower flange of Si roller, upper flange of Sup GR, upper flange of Tu GR, and upper/lower flange of Tu guide.

2 In case of V/S F and R ascertain that no curl is found at each flange.

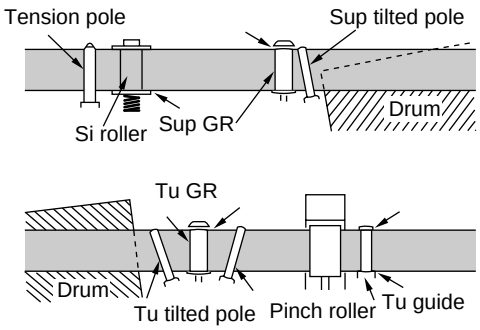


Figure 12

4-4-7. Checking and adjusting the playback switching point

Refer to the description of playback switching point adjustment in section of VCR circuit adjustment.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

4-5. MECHANISM ASSEMBLING AND PARTS REPLACEMENT (DISASSEMBLING AND ASSEMBLING)

Below is given an explanation of assembling of mechanism and its parts replacement.
The removal of cabinet and Circuit Board is explained in the relevant service manual.

Notes

1 After removal of cut washers be sure to replace them with new ones.
2 Do not place the mechanism upside down on the table. Otherwise, the mechanism part may be deformed or damaged, resulting in malfunction.
3 When assembling, take care so that screw, washer or other foreign substance do not enter. Otherwise mechanism malfunction may occur.
4 Be sure to use the specified cleaning liquid, oil, grease and screw lock as listed below. Otherwise mechanism malfunction may occur.

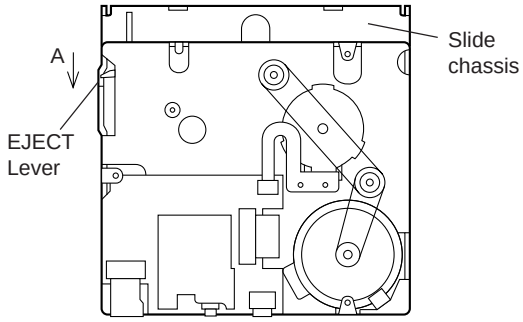
Oil:	Cosmo Oil Co., Ltd. COSMOHYDRO HV100
Greases:	Dow Coaning MORYCOAT YM-103/X5-6020
Screw lock:	THREE BOND 1401B
Cleaning liquid:	Industrial-use ethyl alcohol

4-5-1. Mechanism modes

To actuate the mechanism, apply DC3 to 4V to the L motor. At this time the L motor connector must have been disconnected in advance.
Below is given an explanation of the mechanism mode necessary for mechanism check, adjustment and replacement.

(1). [EJ] (Eject) mode (See Figure 1)

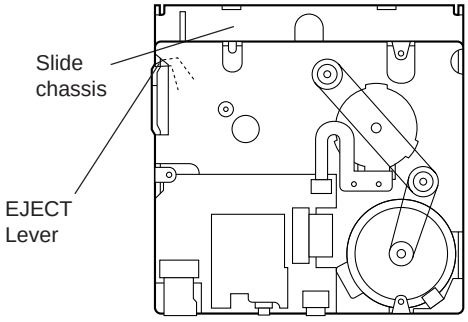
In this mode, it is mechanically positioned to eject the cassette. It is the position where the EJECT lever is moved the farthest in the direction A in the S/B mode. (In this mode, the cassette compartment assembly can not be locked.)



[EJ] mode
Figure 1

(2). [S/B] (Standby) mode (See Figure 2)

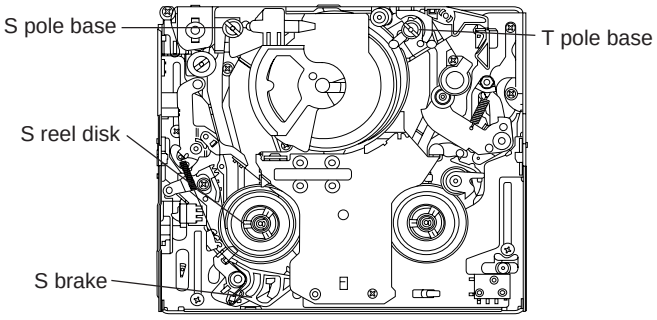
When the cassette is loaded, the mechanism is set to the S/B mode. In this mode the slide chassis is most far from the drum. In this mode the Eject lever is in position shown in Figure 2 (in position where the cassette control ass'y can be locked).



[S/B] mode
Figure 2

(3). [STOP] mode (See Figure 3)

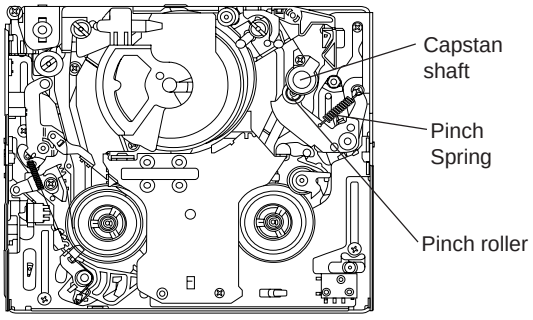
In the STOP mode the S.T pole base is depressed in the STOP position (or Rec Lock position in CAMERA mode), and the S brake is in contact with the S reel disk.



[STOP] mode
Figure 3

(4). [PB] mode (See Figure 4)

In this mode, it is positioned for the replay, record and so on. It is the mechanical position where the pinch roller is pressed against the capstan shaft to make the pinch-pressing spring the most longest.



[PB] mode
Figure 4

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

4-5-2. Cassette control ass'y

<Disassembling>

(1) Set the unit to the EJECT mode, and let the housing stand upright. Or set the unit to the STANDBY mode, press the lock lever in the arrow direction, and let the housing stand upright. (See Fig. 5: in the direction ⓐ or ⓑ) (When pushing in the direction ⓐ, slightly lift the housing by hand to release the lock lever.)
(2) Remove the four screws ② and take out the down guide ③.
(3) Slide the two link support shafts ⓒ and the two roller shafts ⓓ to the round openings ⓖ on their respective slide chassis slits (two at ⓔ and two at ⓕ).
(4) Deflect the roller shafts ⓓ a little inward to get them out of the round openings ⓖ on the slide chassis. (Be careful not to deform the inner links.)

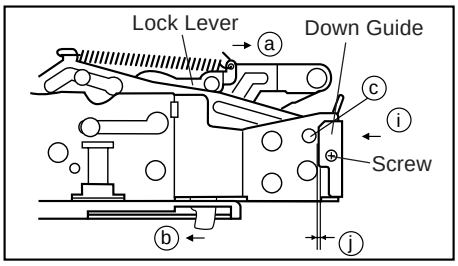


Figure 5. Lock lever section

<Reassembling>

(1) Set the unit to the STANDBY mode.
(2) Deflect the roller shafts ⓓ a little inward, and fit them into the round openings ⓖ on the slide chassis. (Be careful not to deform the inner links.)
(3) Align the flanges of roller shafts ⓓ with the slide chassis slits ⓕ. While sliding the flanges, fit the support shafts ⓒ in the slide chassis slits ⓔ, and slide them until they reach the slits.
(4) Attach the down guide. (While pressing the guide in the direction ⓘ, tighten the screws until the gap ⓙ between the down guide ③ and the support shafts ⓒ becomes zero.)
Tightening torque: 70±7 mN·m (0.7±0.07 kg·cm)

Screw tightening torque (4 locations)
0.069±0.007 N·m
(0.7±0.07kg·cm)

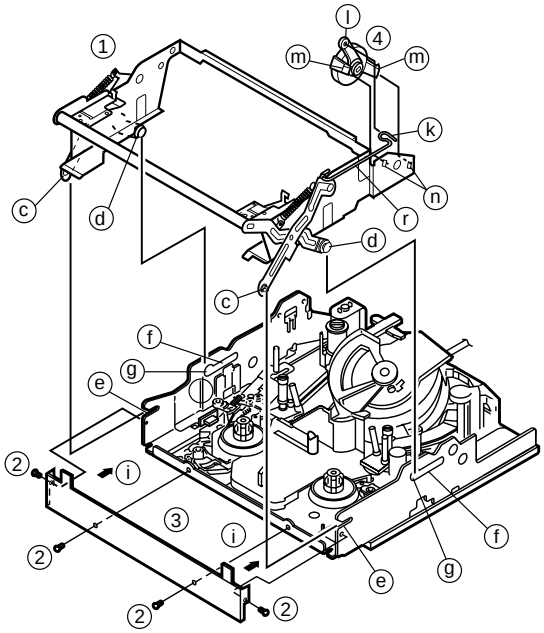
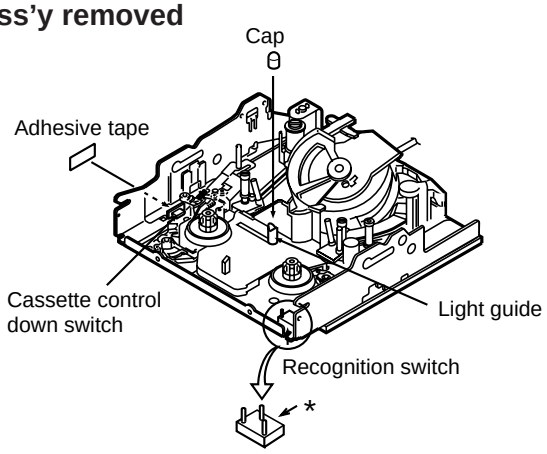


Figure 6

4-5-3. Actuating the mechanism with the cassette control ass'y removed

(1) Turn on the power supply with the cabinet and camera unit removed, referring to the Service Manual (so as to actuate the mechanism).
(2) Put the cap on the light guide.
(3) Press the cassette control down switch through the adhesive tape in the arrow direction so as to turn it on. At this time take care to avoid contact with the cassette. Keep the switch pressed (if the switch is turned off, unloading occurs).
Note: To set the Rec mode, press the pin (marked with the asterisk *) of recognition switch (this operation is not necessary in other modes).



4-5-4. Drum and Drum base

<Removal>

* To replace the upper drum, be sure to put on gloves. Due care is required so that the drum is not damaged.

(1) Drum base
Remove the 3 mounting screws as shown in Figure 1, and remove the drum base.

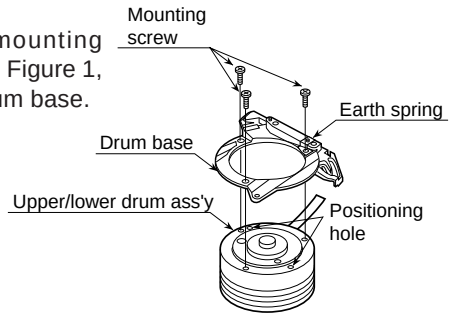


Figure 1

(2) Drum motor stator
Remove the stator mounting screw with the hexagonal wrench as shown in Figure 2, remove the motor stator.

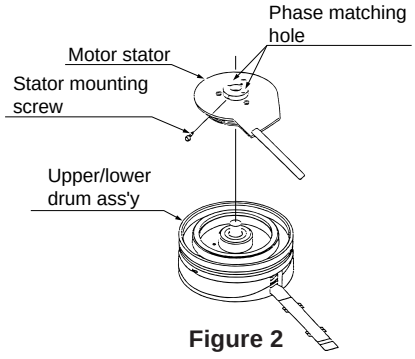


Figure 2

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

(3) Upper drum ass'y
Remove the upper drum ass'y from the lower drum ass'y as shown in Figure 3.
At this time take care so as not to lose the gap shim.

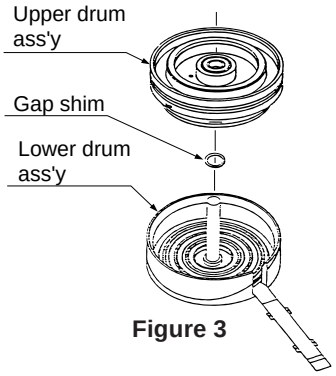


Figure 3

(4) Motor rotor ass'y and rotary transformer rotor ass'y
Remove the 2 rotor mounting screws as shown in Figure 4, and remove the motor rotor and the rotary transformer ass'y.

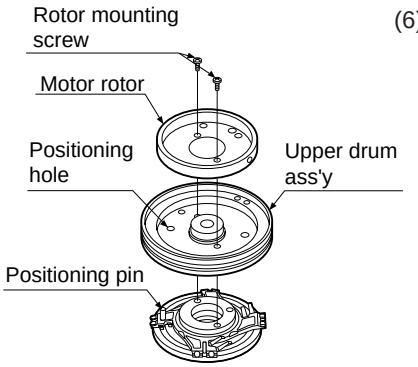


Figure 4

(5) Balancer
Remove the balancer mounting screw as shown in Figure 5, and remove the balancer.

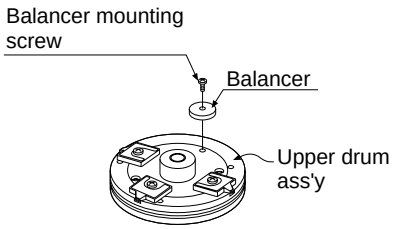


Figure 5

(6) Lower drum ass'y
Remove the FPC mounting screw from the lower drum ass'y as shown in Figure 6.

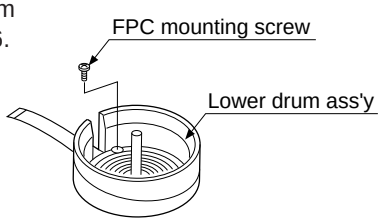


Figure 6

<Installation>
Install the upper drum in the reverse order of removal.
(1) Balancer
Mount the balancer to the upper drum ass'y with the balancer mounting screw. The screw tightening torque must be 0.1N·m (tighting torque 1kg·cm). (Figure 5)
(2) Motor rotor, rotary transformer rotor ass'y
Clean the contact surfaces of rotor ass'y holder and upper drum ass'y, and ascertain that there are no contamination and flaws. Next, adjust the phase so that the positioning pin of rotor ass'y is inserted into the positioning hole of upper drum, and tight fit the rotor ass'y to the lower surface of upper drum ass'y (Figure 7).

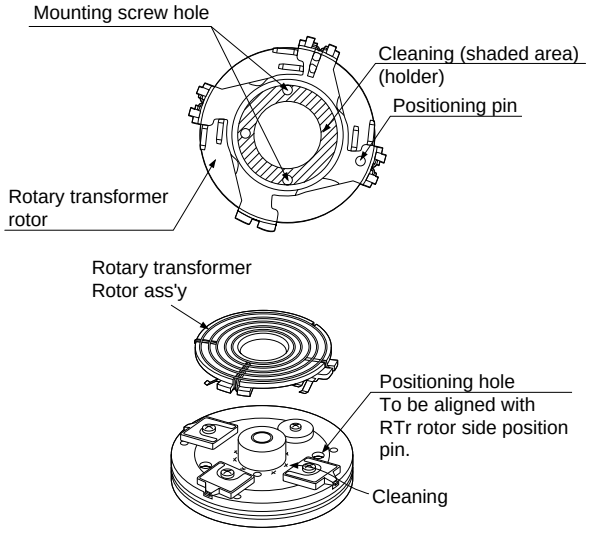
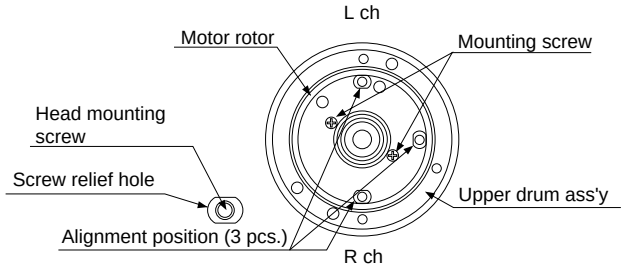


Figure 7

In this state put the motor rotor on the upper surface of upper drum ass'y, and tighten the mounting screw. At this time make sure that the head screw in the three places is visible through the motor rotor hole (Figure 8). The screw tightening torque must be 0.1N·m (1 kg·cm).



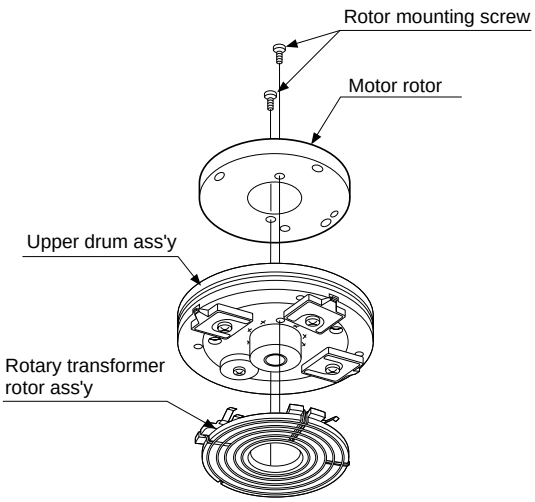


Figure 8

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

(3) Lower drum ass'y
Tighten the FPC mounting screw to the lower drum ass'y. The screw tightening torque must be 0.08N·m (tighting torque 0.8kg·cm). (Figure 6)
(4) Upper drum ass'y
After fitting the gap shim which was removed when the upper drum ass'y was dismantled to the shaft of lower drum ass'y, fit the upper drum ass'y. (Figure 3)
At this time slightly turn the upper drum ass'y by hand to ascertain that RTr does not scrape. If scrape is found, replace the gap shim with the gap shim packaged together with the replacement upper drum ass'y.
(5) Drum motor stator
Fit the motor stator to the shaft. Then, apply the preliminary pressure 0.07N·m (0.7kg) to the motor stator, tighten the stator mounting screw. The tightening torque must be 0.15N·m (1.5kg·cm).
Install the stator so that the chassis line is nearly parallel with the motor stator straight section when it is installed on the chassis. (Figure 9)
(6) Drum base
Align the positioning pin, and tighten the screws (3 pcs.).
(7) Drum ass'y
Install the drum ass'y on the main chassis, and tighten the screws (3 pcs.).
(8) Tape guide
Align the positioning pin, and tighten the screw (1 pc.).

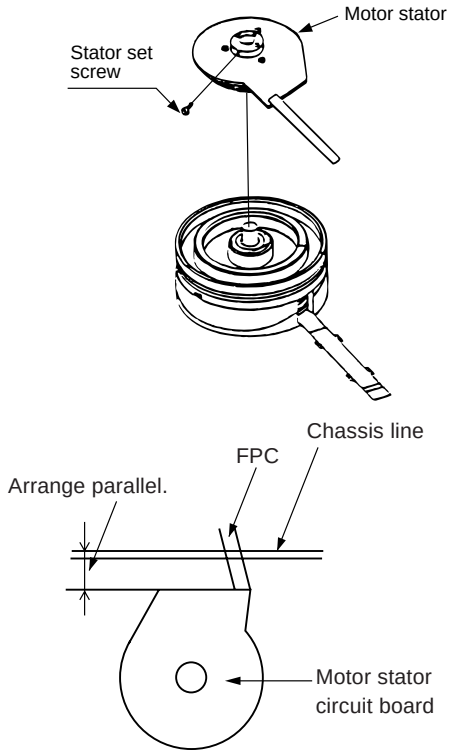
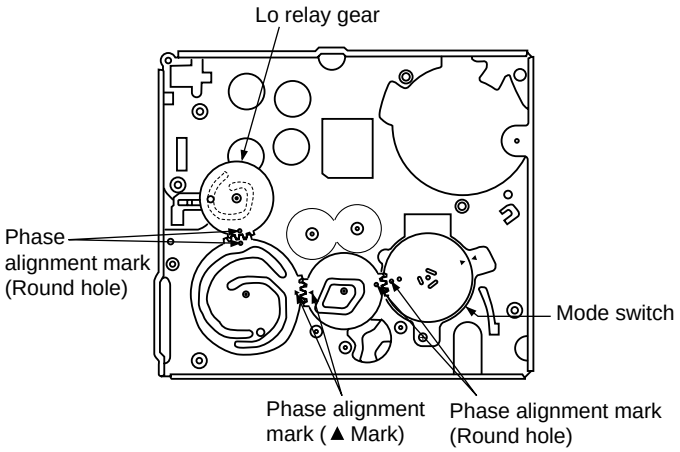


Figure 9

4-5-5. Phase matching

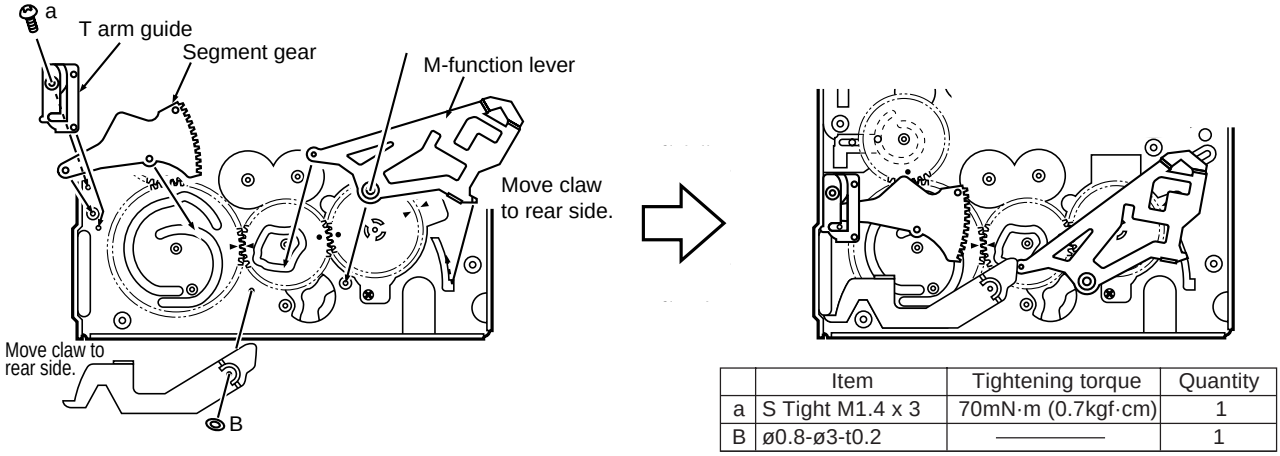
The phase of the following parts must be matched as shown in the figure below.
(Ascertain that the ▲ marks and round holes align.)

(1) Lo relay gear (2) Main cam
(3) Sub-cam (4) Mode switch



4-6. MECHANISM ASSEMBLING METHOD

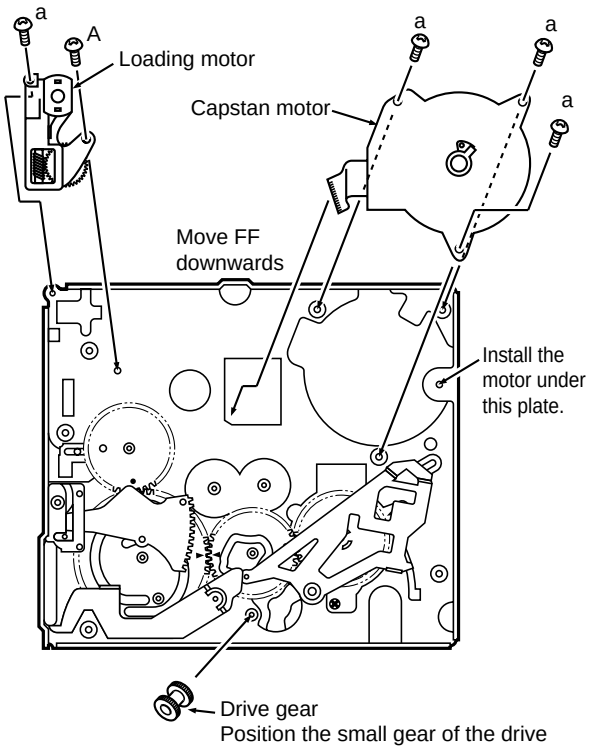
(1) Adjust the phase of each part.
(2) Install screws and washers.
(3) Install the segment gear, T arm guide and the M-function lever. Install the eject lever.



	Item	Tightening torque	Quantity
a	S Tight M1.4 x 3	70mN·m (0.7kgf·cm)	1
B	ø0.8-ø3-t0.2	————	1

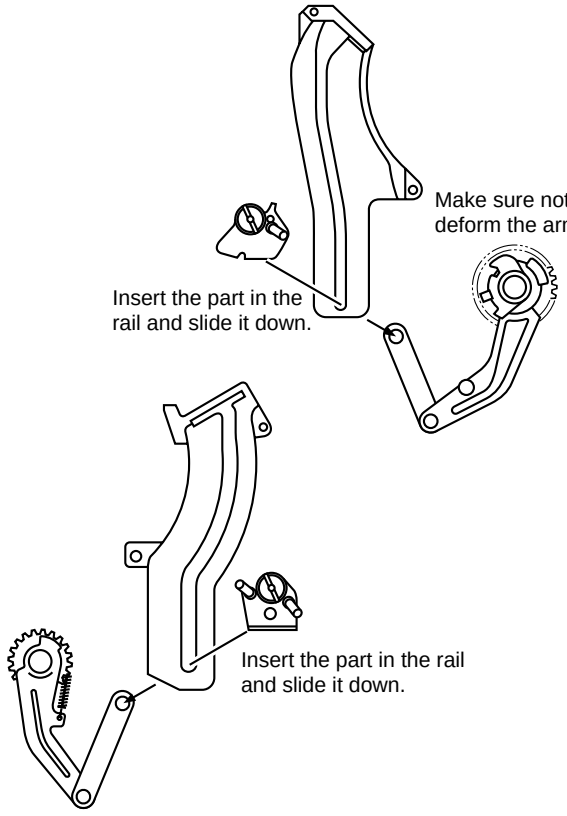
VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

(4) Install the loading block assembly and the capstan motor.
(5) Install the drive gear. At this time, pay attention to the direction of gear. (The small gear must be located in the chassis side.)

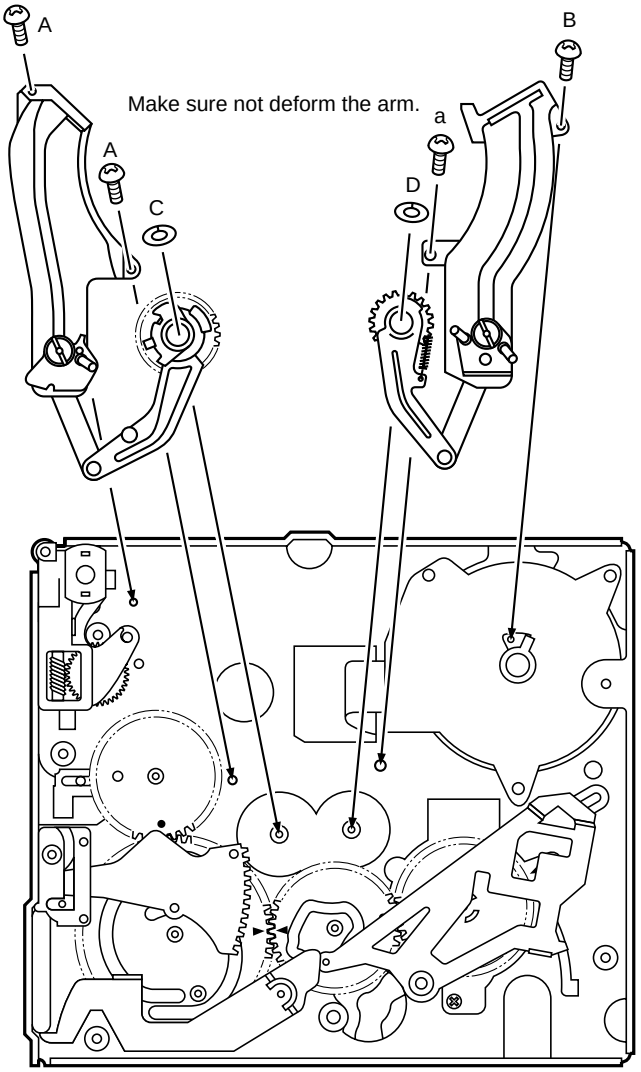


	Item	Tightening torque	Quantity
A	S Tight M1.4 x 2.5	70mN·m	1
a	S Tight M1.4 x 3	70mN·m	4

(6) Install the guide rail assembly.

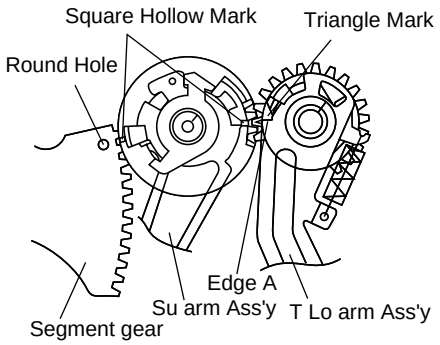


(7) Install the guide rail assembly taking care to position it correctly.



	Item	Tightening torque	Quantity
A	S Tight M1.4 x 2.5	70mN·m	2
B	S Tight M1.4 x 4	40mN·m	1
C	ø0.8-ø3-t0.2	————	1
D	ø2.1-ø5-t0.25	————	1
a	S Tight M1.4 x 3	70mN·m	1

Align the marks on the parts.



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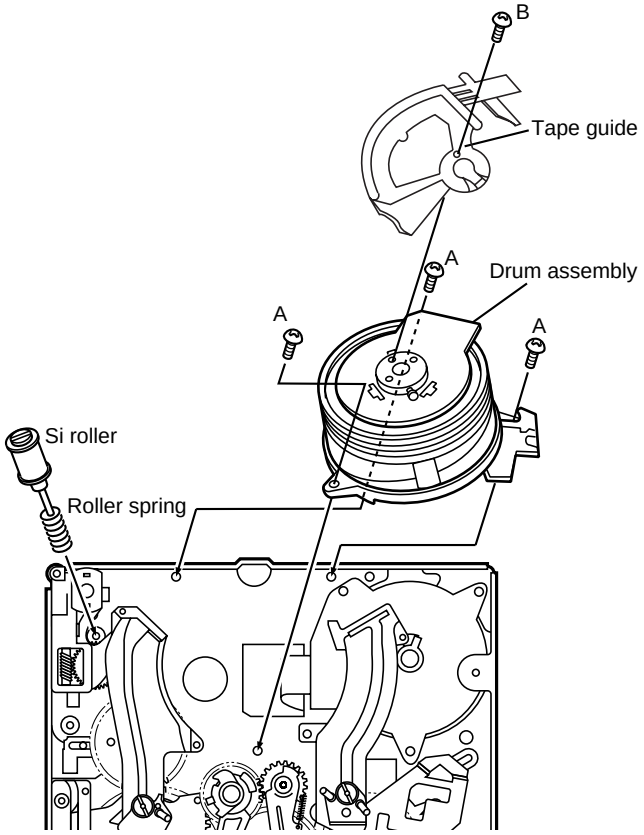
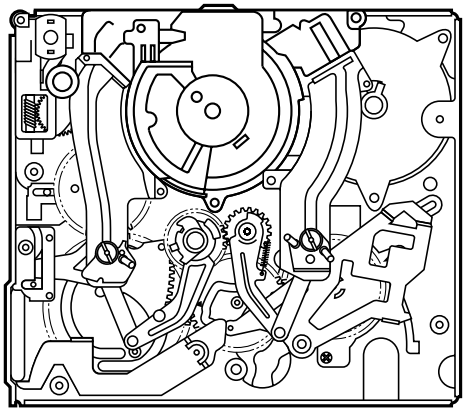
VL-H96E/VL-H960E

(8) Install the drum assembly in the chassis.
(9) Install the tape guide in the drum assembly.
(10) Install the Si roller.

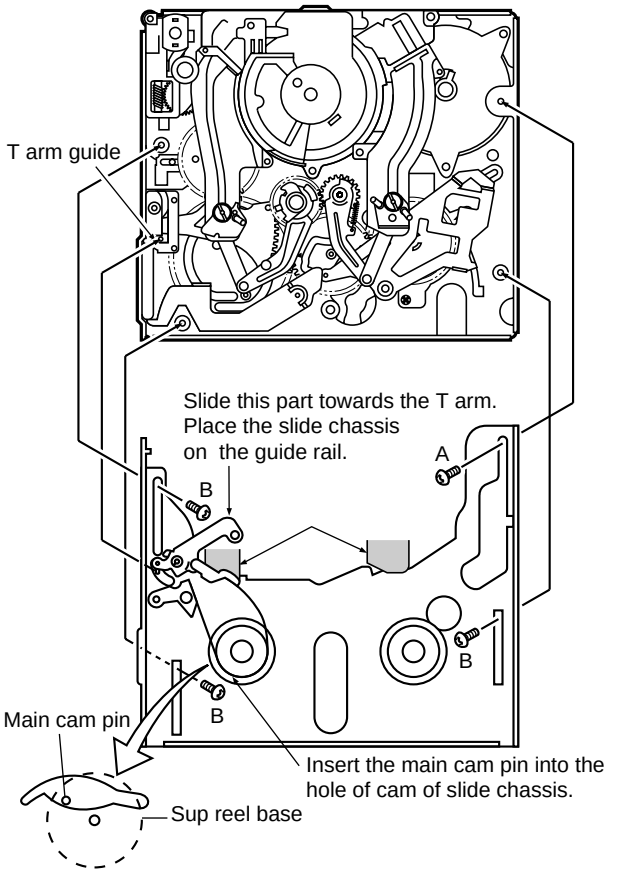


Chassis drawing



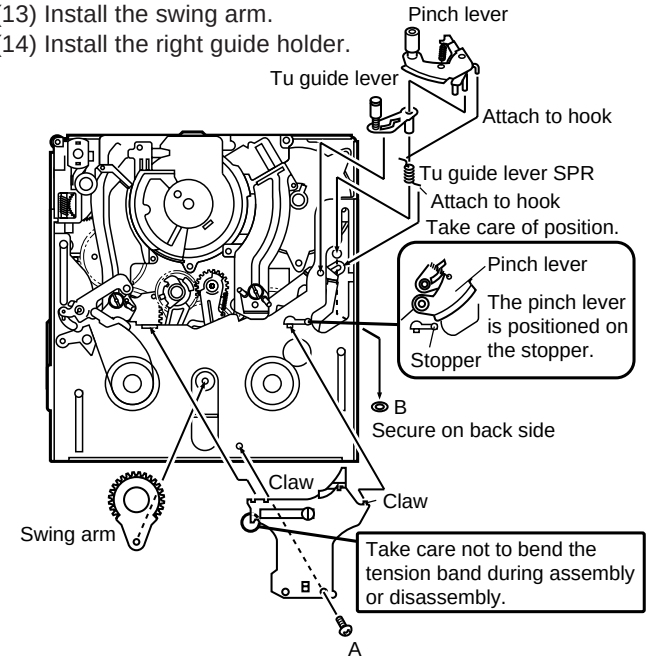
	Item	Tightening torque	Quantity
A	S tight M1.7 x L5.3	100mN·m	3
B	S tight M1.7 x L2.5	60mN·m	1

(11) Install the slide chassis.



	Item	Tightening torque	Quantity
A	M1.4 x 1.5 ø4	40mN·m	1
B	M1.4 x 1.5 ø3.5	40mN·m	3

(12) Install in the following order: T guide lever spring, T guide lever, pinch lever.
(13) Install the swing arm.
(14) Install the right guide holder.



	Item	Tightening torque	Quantity
A	S tight M1.4 x 2.5	70mN·m	1
B	CW ø0.8-ø3-t0.2	70mN·m	1

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

5. ADJUSTMENT OF VCR AND CAMERA

5-1. INITIAL SETTING OF E²PROM IC

5-1-1. E²PROM data alterable ways

1) Set the switch of main body to CAM, and use the remote control (RRMCG0033TASA) for adjustment to turn on the adjustment mode.
2) VCR adjustment address setting.
   V ADJ
   0000 "0000" is blinking
   After an objective address was established, play key is pushed and set.
   In addition, numerical change uses a "REW" or "FF" key.
3) VCR adjustment data setting.
   V ADJ
   0000 ## Value of "##" differs by an address.
   After an objective data was established, "PLAY" key is pushed and set.
4) When data of other address are changed successively, push "STOP" key, and please repeat operation to 5) from 3).
5) When SW of the substance is turned into off, data are written to E²PROM from systematic microcomputer.

5-1-2. IC703 (E²PROM)

When the IC703 has been replaced, make the following settings and adjustments.

1. Remove the backup battery (CR2025).
2. Turn power switch to CAMERA.
3. Setting up the V ADJ mode as follows.

* After press the CONTINUE key, press the VCR ADJ key on service remote control (RRMCG0033TASA).

4. After setting the above data, clear the V ADJ mode and turn off the power by pull out the battery pack or DC cable.
   Neglect about 30 seconds after turned of power, because data of address becomes effective after microcomputer is reset.
   Now the setting of data is completion.

address	H860S data	H860H data	H870S data	H890S data	H94E data	H94EW data	H94EX data	H96E data	H96EW data	H96EX data	H960E data	H960EW data
03 (Specificaton code)	28	20	28	28	01	01	01	20	01	01	01	01
02 (Country code)	00	00	00	00	00	00	00	00	00	00	00	00

Adjustments to follow
Make the system controller servo, VCR, and LCD adjustments according to their respective instructions.

5-1-3. Camera adjustment

When the IC2 has been replaced, make the camera adjustment according to its instructions.
All the camera adjustment data are written in the E²PROM provided on the lens unit. Therefore, when the lens is replaced, the camera must be adjusted again according to the camera adjusting procedure.

5-2. ADJUSTING THE Y/C, AUDIO AND LCD CIRCUITS ON MODELS WITHOUT A/V IN MODE (A/V IN MODE SET-UP PRODUCE)

1) Set the switch of main body to CAM, and use the remote control (RRMCG0033TASA) for adjustment to turn on the adjustment mode.
2) Set up the adjustment address (example : EE mode adjustment address 14). Once this address has been set up, the A/V IN mode (test mode) is automatically brought and the images appear on the LCD display.
3) Now make the adjustments referring to the instruotions in the manual.

5-3. ADJUSTMENT OF VCR SECTION

5-3-1. Before starting the electric circuit adjustment

- Electric circuit adjustment becomes necessary, in most cases, when any of the wear mechanical parts or the video head has been replaced. Before starting the electric circuit adjustment, be sure to check that the mechanical parts work well (i.e., the mechanical parts have all been perfectly adjusted). In case a trouble or troubles are found in the electric circuitry, be sure to pinpoint the cause(s) by using the measuring instruments described below. After locating the trouble spot(s), then proceed to repair, replacement or adjustment. Do not change the positions of the controls when adequate measuring instruments are not available.
- In order to implement a higher-density, smaller machine, most of the electric circuit parts used on the Circuit Boards are of small-sized, surface-mounted type. For replacing part(s) as after-sales service, work with a soldering iron as speedily as possible. The heat resistance of the surface-mounted components is poor, when compared with the larger-sized discrete parts used for television sets and stationary decks, owning to their small sizes. Therefore, exercise due care to avoid long-time exposure of the pins of these parts to the heat of the soldering iron which may possibly damage them. Such care should be exercised especially for chip-layer capacitor replacement. It is advisable to use a temperature-controlled ceramic soldering iron (temperature at the tip: 250°C, contacting time: less than 5 seconds).

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

< Adjusting the video/LCD section >

• Measuring instruments:

*Color monitor TV set *Digital voltmeter *DC power supply *Audio generator (CR oscillator) *Alignment tape (JiGWR5-5CSP) (JiGWR5-8CSE) (JiGWR5-9CS)	*AC adapter *Oscilloscope *Frequency counter *Signal generator *AV output cable (accessory) *Video recording tape (For Y/C, audio and servo adjustments)	*DC cable (AC adapter accessory) *Video extension cables *Vector scope

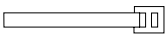
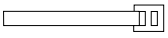
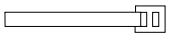
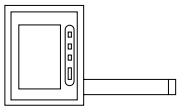
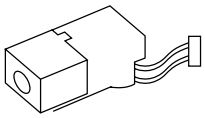
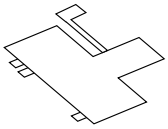
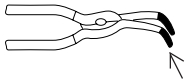
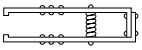
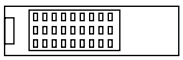
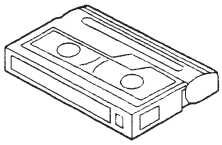
5-3-2. Servicing the VCR section Adjustment

5-3-2-1. Typical connections

Configuration

<Note: The entries of list> 1. Name 2. Part No. 3. Code 4. Note * Model, Uses Remarks

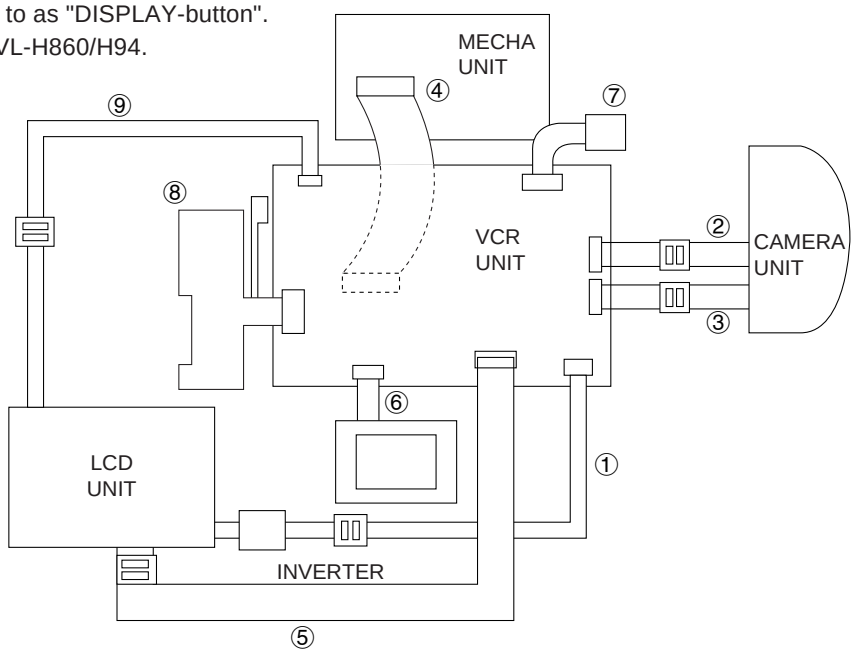
<Extension Cable etc.>

①  1. Extension Cable Inverter~VCR (7pin) 2. QCNW-1265TAZZ 3. AX	②  1. Extension Cable Camera~VCR (18pin) 2. QCNW-1270TAZZ 3. AY	③  1. Extension Cable Camera~VCR (19pin) 2. QCNW-1381TAZZ 3. AX	④ 1. Extension Cable MECHA~VCR (70pin) 2. QCNW-1534TAZZ 3. BS	⑤ 1. Extension Cable LCD~VCR (24pin) 2. QCNW-1382TAZZ 3. BD
⑥  1. Operation Unit 2. QSW-Z0287TAZZ 3. AW ∗1	⑦  1. DC-IN Jack Unit 2. QJAKZ0069TAZZ 3. AK	⑧  1. AV Jack Unit 2. QJAKZ0070TAZZ 3. AX	⑨ 1. Extension Cable Touch Panel (6pin) 2. QCNW-1267TAZZ 3. AX ∗2	 insulating sleeve 1. Connector fitting and withdrawing extractor
 1. Connector fitting and withdrawing tweezers 2. 9EQPiNSET06GE 3. BR	 1. Service remote control 2. RRMCG0033TASA 3. BT	 · Alignment Tape JiGWR5-5CSP (PAL) ..... Normal 8 TAPE (MONO) JiGWR5-8CSE (PAL) ..... Hi8 TAPE (MONO) JiGWR5-9CS (PAL)..... Hi8 TAPE (STEREO) * Y/C Audio Alignment		

∗1 VL-H870/H890/H96/H960

" ⏩ (FF) Button" functions to as "DISPLAY-button".

∗2 It is unnecessary with the VL-H860/H94.



VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

• Types of test modes

TEST No.	Title	Contents	Sensor on/off
1	Sensors off	All sensors but the cassette controller switch, dew sensor and battery sensor stay off.	
3	Automatic battery sensor adjustment	Battery sensor's input voltage put in memory.	
4	Battery adjustment error display	Battery sensor's adjustment errors are displayed at the right of the "past errors" area.	All sensors on All but sensors on
5	PASS mode	Track shift mode (1/4 shift)	All sensors on
6	Camera adjustment mode	Camera adjustment mode	[VCR interrupted]
7	VCR adjustment mode	VCR adjustment mode	
8	Automatic switching point adjustment (STOP ADJ)	Play standard tape and call this mode. Switching point is automatically adjusted.	

① When the battery adjustment mode is selected from the camera adjustment mode with a cassette with the erase protection tab, the VCR is automatically put in the REC mode.

• Below discussed are these seven test modes.

① [TEST No. 1] Sensors off mode
All the sensors, except for the cassette controller switch, dew sensor and battery sensor, stay off. This enables to bring the VCR in the loading mode without tape. The VCR/camera performance can now be checked with no tape inside.

② [TEST No. 3] Automatic battery alarm adjustment
Used to automatically adjust the voltage level which makes the "battery" appear on the LCD display.

③ [TEST No. 4] Battery alarm check/error display
• The difference between the preset battery alarm voltage and the current supply voltage is displayed as follows.
• A past error is displayed at the right of the current battery alarm error.

④ [TEST No. 5] PASS mode
Used to adjust the tape travelling condition. The tracking is shifted by 1/4 from the center to make the tape running-related RF envelope fluctuations easier to observe.

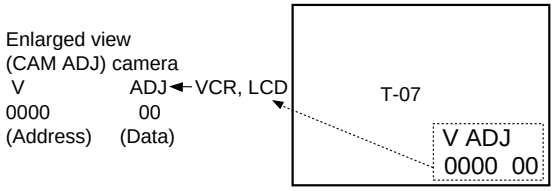
⑤ [TEST No. 6] Camera adjustment mode
Used to adjust the camera section. (For details, see Servicing the Camera Section.)

⑥ [TEST No. 7] VCR adjustment mode
Used to adjust the VCR section. (For details, see Servicing the VCR Section.)

⑦ [TEST No. 8] Automatic switching point adjustment
Used to automatically adjust the playback switching point. (For details, see Automatic Adjustment of the Playback Switching Point.)

5-3-2-2. Setting up the VCR section adjustment mode (camera section adjustment)

• Select adjustment items by using addresses. Rewrite the adjustment data to change the settings.
Below shown the adjustment procedures and on-screen display.



	Procedural steps	Display (: flashing)
①	Turn up or down the flashing hexadecimal number with the FF or REW key to select the address of a desired adjustment item. (Initial address: 00H) Note: The addresses change as follows. 01FE — 01FF — 0000 — 0001 — 0002	V ADJ
②	Press the PB key to read the data of the selected address.	V ADJ 002C A3
③	Turn up or down the data setting with the FF or REW key. The data display starts flashing.	V ADJ 002C
④	Press the PB key again to write the data setting into the selected address.	V ADJ 002C 72
⑤	Press the STOP key in the above step ② or ④, and the screen returns back to the step ①.	V ADJ

When the FF or REW key is held down for 0.3 second or longer, the address selection is repeated in cycles of 100 msec. The data setting changes by ± 4 by holding the key down for 2 seconds or longer.

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VL-H890S/VL-H94E
VL-H96E/VL-H960E

5-3-2-3. Battery shut-off voltage adjusting method

1) Supply power to the main unit, using the variable-voltage DC power supply (range of 5V to 9V).
2) Set the CAM/OFF/VCR SW to CAM to switch to the camera mode.
3) Load a recordable tape and set the main unit to CAM REC. PAUSE.
4) Set the main unit to TEST mode No. 3, and start recording.
5) Measure voltage between TL2918(+) and TL2904(GND), and adjust the supply voltage to 6V.
6) The adjustment is complete if "BATTERY" is displayed on the monitor screen for a second when the PLAY key of operation unit is pressed.
7) The adjustment is regarded as proper if the auto shut-off is actuated after the warning is displayed when the TEST mode is cancelled.

* In case of automatic adjustment of shut-off voltage, adjustment is impossible if voltage is above 6V ± 0.2V.
If the adjustment is made at 5.8V or below, the low-voltage operation may become unstable.

•Type of test modes
<Procedues>
To adjust the camera section of this machine, the remote control for servicing (RRMCG0033TASA) is used.
Press the "CONTINUE" key → "TEST SEL", this will show [T-01] on the LCD OSD, (01:flashing), and select the below TEST No. with "FF" or :REW" key and set with "PLAY" key.
Same procedures of adjustment from now on.

Use the SW2 thru SW9 switches on the adjustment tool to select the following test modes.

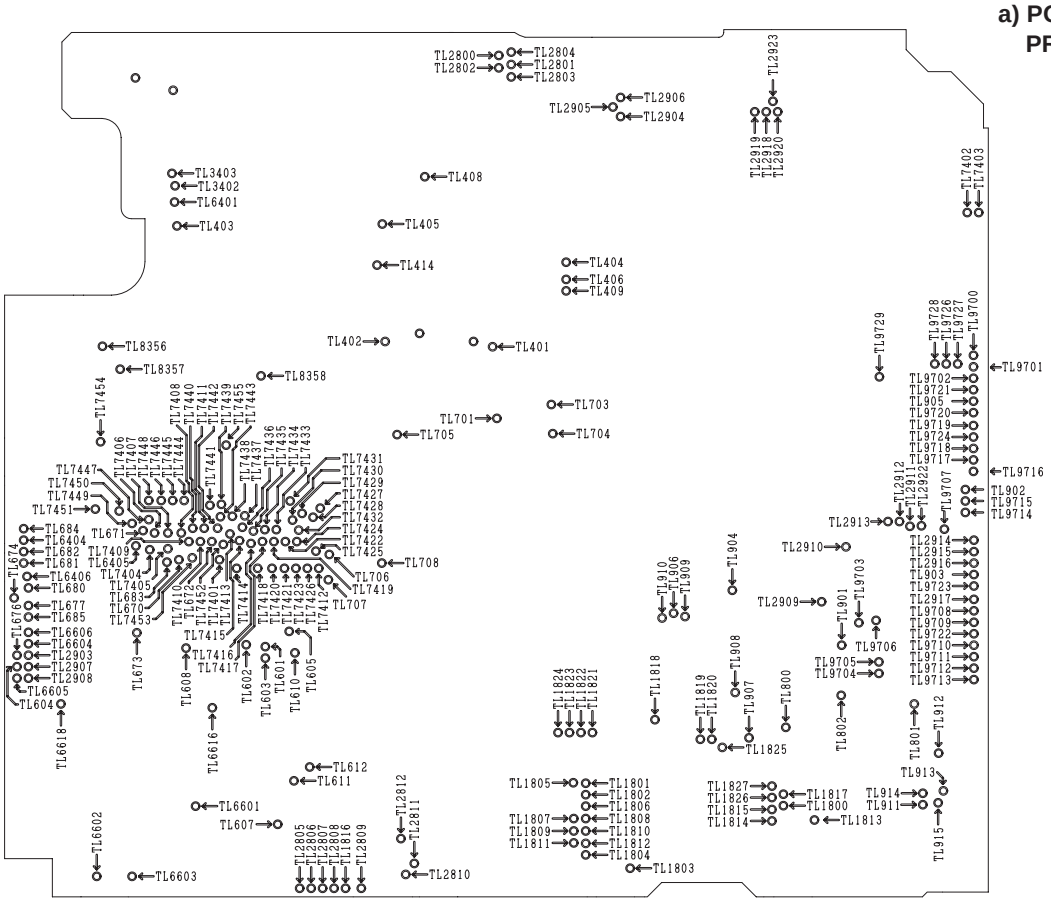
TEST No.	Title	Contents	Sensor on/off
1	Sensors off	All sensors but the cassette controller switch, dew sensor and battery sensor stay off.	
2	Mechanism adjustment mode	① Automatic SP/LP detection prohibited ② Different-mode detection prohibited ③ ATF sampling limited to center	All sensors on
3	Automatic battery sensor adjustment	Battery sensor's input voltage put in memory.	
4	Error display	Past errors appear on the counter display of the viewfinder.	All sensors on
	Battery adjustment error display	Battery sensor's adjustment errors are displayed at the right of the "past errors" area.	All but sensors on
5	PASS mode	Track shift mode (1/4 shift)	All sensors on
6	Camera adjustment mode	Camera adjustment mode	[VCR interrupted]
7	VCR adjustment mode	VCR adjustment mode	
8	Automatic switching point adjustment (STOP ADJ)	Play standard tape and call this mode. Switching point is automatically adjusted.	

① When the battery adjustment mode is selected from the camera adjustment mode with a cassette with the erase protection tab, the VCR is automatically put in the REC mode.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

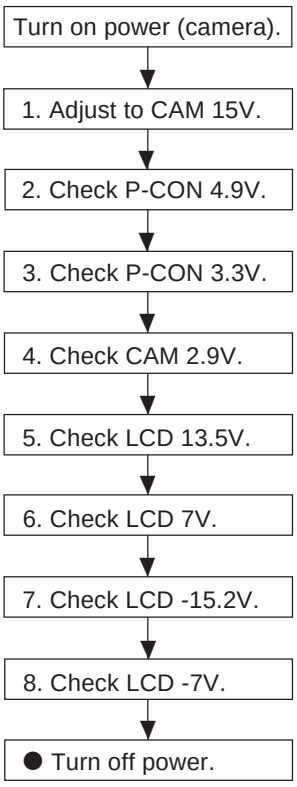
5-3-3. Adjusting the VCR circuit

• Test Points on the Video Circuit Board



5-3-3-1. Adjusting the power circuit

a) POWER CIRCUIT ADJUSTMENT PROCEDURE


Turn on power (camera).
1. Adjust to CAM 15V.
2. Check P-CON 4.9V.
3. Check P-CON 3.3V.
4. Check CAM 2.9V.
5. Check LCD 13.5V.
6. Check LCD 7V.
7. Check LCD -15.2V.
8. Check LCD -7V.
● Turn off power.

POWER CIRCUIT ADJUSTMENT METHOD

● Input 9V from DC Jack, and set the power switch to the camera side.

⁎ Don't fail to fix the back light unit befor adjusting them.

1. Adjustment to CAM 15V

Make an adjustment so that the digital voltmeter indicates 15V ± 0.05V.

Measuring instrument	Digital voltmeter
Measuring terminal	TL905
Adjustment address	3EH
Standard	15V ± 0.05V

2. Checking of P-CON 4.9V

Check that the digital voltmeter indicates 4.9V ± 0.1V.

Measuring instrument	Digital voltmeter
Measuring terminal	TL901
Adjustment address	
Standard	4.9V ± 0.1V

3. Checking of P-CON 3.3V

Ascertain that the digital voltmeter indicates 3.3V ± 0.1V.

Measuring instrument	Digital voltmeter
Measuring terminal	TL903
Adjustment address	
Standard	3.3V ± 0.1V

4. Checking of CAM 2.9V

Ascertain that the digital voltmeter indicates 2.9V ± 0.1V.

Measuring instrument	Digital voltmeter
Measuring terminal	TL910
Adjustment address	
Standard	2.9V ± 0.1V

5. Checking of LCD 13.5V

Ascertain that the digital voltmeter indicates 13.5V ± 0.2V.

Measuring instrument	Digital voltmeter
Measuring terminal	TL907
Adjustment address	
Standard	13.5V ± 0.2V

6. Checking of LCD 7V

Ascertain that the digital voltmeter indicates 7V +0.4/-0.2V.

Measuring instrument	Digital voltmeter
Measuring terminal	TL904
Adjustment address	
Standard	7V +0.4/-0.2V

7. Checking of LCD -15.2V

Ascertain that the digital voltmeter indicates -15.2V ± 1V.

Measuring instrument	Digital voltmeter
Measuring terminal	TL906
Adjustment address	
Standard	-15.2V ± 1V

8. Checking of LCD -7V

Ascertain that the digital voltmeter indicates -7V +0.4/-0.7V.

Measuring instrument	Digital voltmeter
Measuring terminal	TL908
Adjustment address	
Standard	-7V +0.4/-0.7V

● Turn off power supply.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

5-3-4. Adjustment of system controller and servo circuit

5-3-4-1. Adjustment of playback switching point

Measuring instrument	Oscilloscope
Mode	Playback
Adjustment address	30h
Tape	Alignment tape (JiGWR5-5CSP)

b) CHARGING CIRCUIT ADJUSTMENT PROCEDURE

1) Play back the alignment tape (JiGWR5-5CSP)
2) Press the “CONTINUOUS PUSH” and “TEST MODE SELECTION” of adjustment remote controller to set the test mode. (At this time the numeral of “TEST01” blinks.)
3) Using the “FF” and “REW” keys, select “TEST08”, and press the playback key to set the SW-P adjustment mode.
4) After a while the adjustment is completed, and operation stops automatically. In case of adjustment failure the tape is ejected automatically.

Only in the case when the satisfactory result was not obtained by the adjusting method described above, perform the following adjustment.

1) Connect each signal to the oscilloscope.
   1ch: Video output TL3402
   2ch: H-SW-P TL404
   GND: GND TL7449
2) Play back the alignment tape (JiGWR5-5CSP)
3) Press the “CONTINUOUS PUSH” and “VCR ADJUSTMENT” of adjustment remote controller to set the VCR adjustment mode.
4) Select the address 30h, set the sync slope of oscilloscope to (–), adjust the data with “REW” and “FF” so that the interval between the trigger point and the V sync signal is set to 6H, and fix the data with the “PLAY” button. (See Figure 5.1.1.)
5) Then, set the sync slope to (+), and ascertain that the interval between the trigger point and the V sync signal has been set to 6H. (See Figure 5.1.2.)
6) Keep the STOP key pressed for about 3 seconds to exit from the adjustment mode.

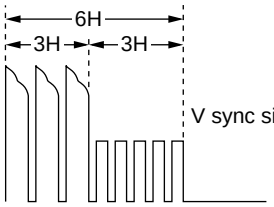


Figure 5.1.1

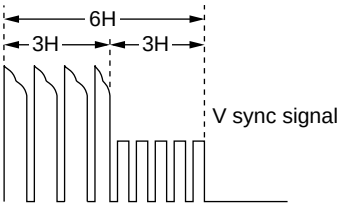


Figure 5.1.2

5-3-5. Y/C circuit adjustment method

Input signal conditions

Video signals generated by a pattern generator are used to make electric adjustments in a Y/C circuit. Thus this signal must conform to the standards prescribed for adjustment signals.
Use an oscilloscope to check that the video signal is terminated with a 75 Ω resistor, the amplitude of the sync signal component, video component and burst signal are approx. 0.3 Vp-p, 0.7 Vp-p and 0.3 Vp-p, respectively and that they are flat. The relative level of the burst signal and the red signal shall be 0.30:0.66.
The color bar used in an electrical adjustment is shown in Figure A.

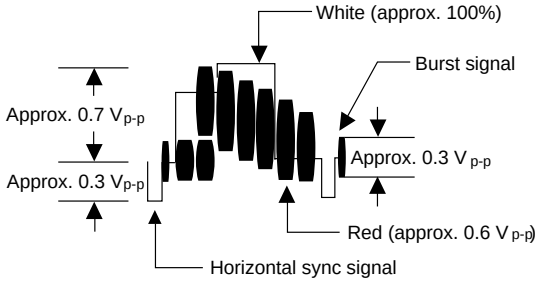


Figure A Color bar signal produced by a pattern generator

*** When a pattern generator is not used**

Shoot a color bar chart (JiGCHART-4) using a perfectly adjusted video camera.
A signal from a perfectly adjusted video camera shooting a color bar chart (JiGCHART-4) can be used as an adjusting signal if the lighting can be set to meet the following conditions: output (75 Ω terminated), the amplitude of the sync signal component, video component and burst signal are approx. 0.3 Vp-p, 0.7 Vp-p and 0.3 Vp-p, respectively. The relative level of the burst signal and the red signal shall be 0.30:0.66. This is shown in Figure B.

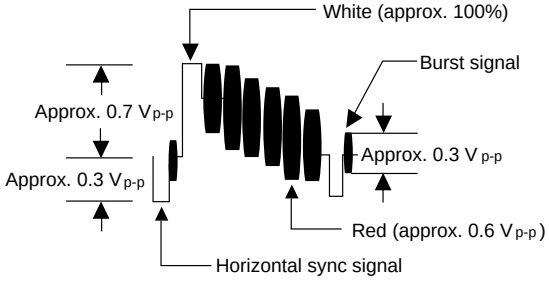


Figure B Color bar signal produced by a video camera

1. Adjustment of fixed data writing

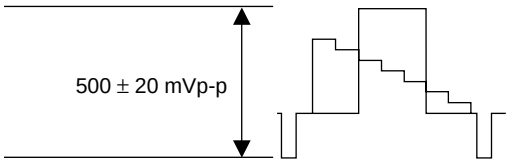
				S · H	E												
ADD	67	68	69	*6A	*6A	6B	6C	6D	6E	6F	55	5A	66	54	65	5C	64
DATA	01	00	02	*00	*01	C8	00	00	66	11	FE	C0	FE	FE	FE	C0	C0

Before starting Y/C adjustment, be sure to write the specific data in the addresses listed left.
If the data listed left is written after Y/C adjustment, adjusting values may deviate.
* As for S · H, after all conditioning (VCR circuit) is shut down, Data of 6A is changed in accordance with the above table.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

2. Adjustment of EE Y level

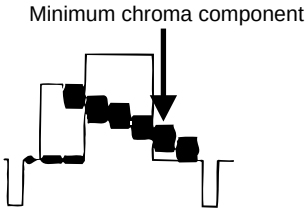
Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL3402, TL8356 (GND)
Adjustment address	32
Adjustment level	500 ± 20 mVp-p



(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 32.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so as to get 500 mVp-p between SYNC TIP and WHITE PEAK on TL3402.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 32.

3. Adjustment of comb filter

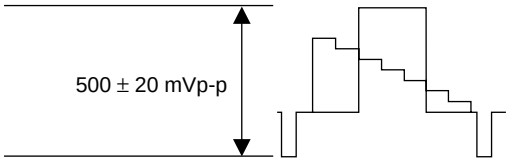
Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL414, TL8356 (GND)
Adjustment address	Phase: 36, Gain: 37
Adjustment level	Minimum chroma component



(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 36.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so as to minimize the chroma component on TL414.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 36.
(4) Enter the VCR adjustment mode with an adjustment remote control, and select the address 37.
Select the address, using the FF or REW key, and fix it with the PB key.
(5) Make an adjustment so as to minimize the chroma component on TL414.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 37.
(6) Repeat the steps (2) - (3).

4. Adjustment of Y emphasis level

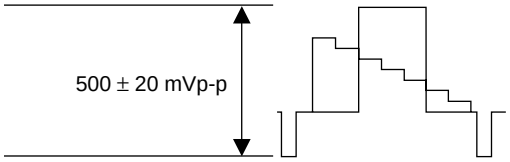
Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL408, TL8356(GND)
Adjustment address	56
Adjustment level	500 ± 20 mVp-p



(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 56.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so as to get 500 mVp-p between SYNC TIP and WHITE PEAK on TL408.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 56.

5. Adjustment of Y de-emphasis (Hi-8)

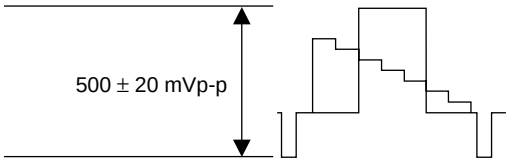
Measuring instrument	Oscilloscope
Mode	PB
Input signal	Color bar (JiGWR5-8CSE)
Measuring point	TL405, TL8356(GND)
Adjustment address	57
Adjustment level	500 ± 20 mVp-p



(1) Set the color bar tape for alignment (JiGWR5-8CSE).
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 57.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so as to get 500 mVp-p between SYNC TIP and WHITE PEAK on TL405
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 57.

6. Adjustment of Y de-emphasis (Normal-8)

Measuring instrument	Oscilloscope
Mode	PB
Input signal	Color bar (JiGWR5-5CSP)
Measuring point	TL405, TL8356(GND)
Adjustment address	62
Adjustment level	500 ± 20 mVp-p

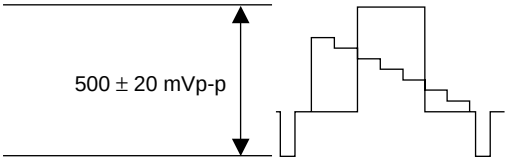


(1) Set the color bar tape for alignment (JiGWR5-5CSP).
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 62.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so as to get 500 mVp-p between SYNC TIP and WHITE PEAK on TL405.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 62.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

7. Adjustment of PB Y level

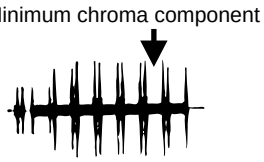
Measuring instrument	Oscilloscope
Mode	PB
Input signal	Color bar (JiGWR5-8CSE)
Measuring point	TL3402, TL8356(GND)
Adjustment address	3F
Adjustment level	500 ± 20 mVp-p



(1) Set the color bar tape for alignment (JiGWR5-8CSE).
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 3F.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so as to get 500 mVp-p between SYNC TIP and WHITE PEAK on TL3402.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 3F.

8. Adjustment of chroma emphasis f0

Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL409, TL8356 (GND)
Adjustment address	38
Adjustment level	Minimum chroma component



(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 38.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so as to get minimum chroma component on TL409.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 38.

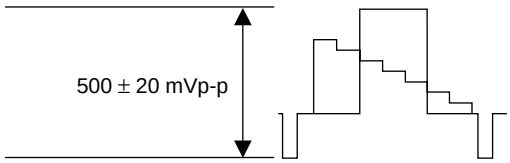
9. Adjustment of Y-FM carrier (Hi-8)

Measuring instrument	Frequensy counter
Mode	VCR STOP
Input signal	No input
Measuring point	TL7443
Adjustment address	33
Adjustment level	5.99 ± 0.02kHz

(1) Input the no-signal into the video input/output terminal in the VCR STOP mode.
At this time, do not pull out the jack on the Viewcam side.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 33.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so that the frequency counter indicates 5.99MHz on TL7443.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 33.

10. Adjustment of Y-FM deviation (Hi-8)

Measuring instrument	Oscilloscope
Mode	RWC/PB (self-playback/recording)
Input signal	Color bar
Measuring point	TL3402
Adjustment address	34
Adjustment level	500 ± 20 mVp-p



(1) Set the recordable tape.
(2) Before entering the adjustment mode,make self-playback/recording of color bar with an external output.
Measure whether the playback output at this time is 500 mVp-p on TL3402 (Hi8 TAPE).
(3) Enter the VCR adjustment mode with an adjustment remote control, and select the address 34.
Select the address, using the FF or REW key, and fix it with the PB key.
(4) When decreasing by 10 mVp-p as compared to the measurement value of (2), decrease the data of address 34 by about 5 (digit). (Reference)
When increasing by 10 mVp-p as compared to the measurement value of (2), increase the data of address 34 by about 5 (digit). (Reference)
Select the address, using the FF or REW key, and fix it with the PB key.
(5) Release the adjustment mode, and make self-playback/recording again. When the measuring value at this time is in the standard value, the adjustment is completed. If it is not in the standard value, repeat the steps (2) -(4).
(6) After completing the adjustment of (5), check the adjusting value of Y-FM carrier f0 (5.99 MHz in no input).
When the measuring value exceeds the standard value of carrier f0, make an adjustment of Y-FM carrier f0 again.

11. Adjustment of Y-FM carier f0 (Normal-8)

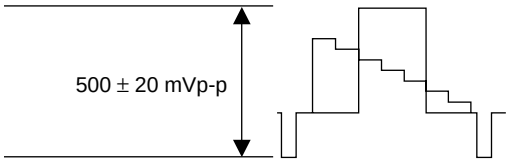
Measuring instrument	Ferquensy counter
Mode	VCR STOP
Input signal	No input
Measuring point	TL7443
Adjustment address	60
Adjustment level	4.38 ± 0.02 MHz

(1) Input the no-signal into the video input/output terminal in the VCR STOP mode.
At this time, do not pull out the jack on the Viewcam side.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 60.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so that the frequency counter indicates 4.38 MHz on TL7443.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 60.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

12. Adjustment of Y-FM deviation (Normal-8)

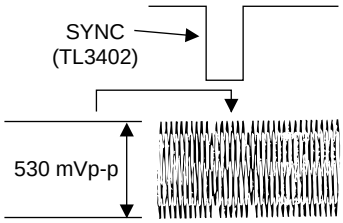
Measuring instrument	Oscilloscope
Mode	REC/PB (self-playback/recording)
Input signal	Color bar
Measuring point	TL3402
Adjustment address	61
Adjustment level	500 ± 20 mVp-p



(1) Set the recordable tape.
(2) Before entering the adjustment mode,make self-playback/recording of color bar with an external output.
Measure whether the playback output at this time is 500 mVp-p on TL3402 (Nor 8 TAPE).
(3) Enter the VCR adjustment mode with an adjustment remote control, and select the address 61.
Select the address, using the FF or REW key, and fix it with the PB key.
(4) When decreasing by 10 mVp-p as compared to the measurement value of (2), decrease the data of address 61 by about 5 (digit). (Reference)
When increasing by 10 mVp-p as compared to the measurement value of (2), increase the data of address 61 by about 5 (digit). (Reference)
Select the address, using the FF or REW key, and fix it with the PB key.
(5) Release the adjustment mode, and make self-playback/recording again. When the measuring value at this time is in the standard value, the adjustment is completed. If it is not in the standard value, repeat the steps (2) -(4).
(6) After completing the adjustment of (5), check the adjusting value of Y-FM carrier f0 (4.38 MHz in no input).
When the measuring value exceeds the standard value of carrier f0, make an adjustment of Y-FM carrier f0 again.

13. Adjustment of REC-Y equalizer (Hi-8 ME)

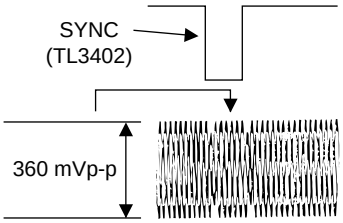
Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL7443
Adjustment address	58
Adjustment level	530 ± 20 mVp-p



(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 58.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so that the SYNC TIP portion gets 530 mVp-p on TL7443.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 58.

14. Adjustment of REC-Y equalizer (Hi-8 MP)

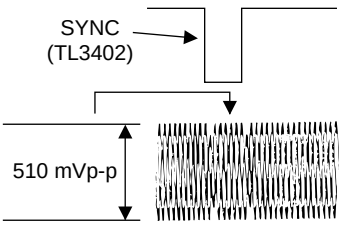
Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL7443
Adjustment address	31
Adjustment level	360 ± 20 mVp-p



(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 31.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so that the SYNC TIP portion gets 360 mVp-p on TL7443.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 31.

15. Adjustment of REC-Y equalizer (Normal-8 ME)

Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL7443
Adjustment address	63
Adjustment level	510 ± 20 mVp-p

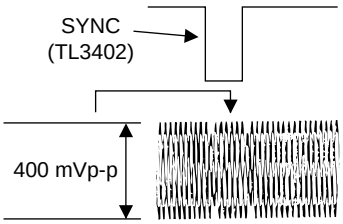


(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 63.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so that the SYNC TIP portion gets 510 mVp-p on TL7443.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 63.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

16. Adjustment of REC-Y equalizer (Normal-8 MP)

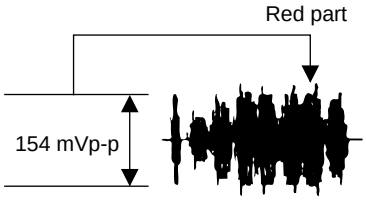
Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL7443
Adjustment address	3A
Adjustment level	400 ± 20 mVp-p



(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 3A.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so taht the SYNC TIP portion gets 400 mVp-p on TL7443.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 3A.

17. Adjustment of REC-C equalizer

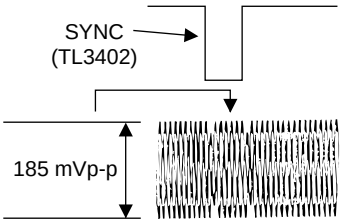
Measuring instrument	Oscilloscope
Mode	VCR STOP
Input signal	Color bar
Measuring point	TL7441
Adjustment address	59
Adjustment level	154 ± 10 mVp-p



(1) Input the color bar signal into the video input/output terminal in the VCR STOP mode.
(2) Enter the VCR adjustment mode with an adjustment remote control, and select the address 59.
Select the address, using the FF or REW key, and fix it with the PB key.
(3) Make an adjustment so taht the SYNC TIP portion gets 154 mVp-p on TL7441.
Select the data, using the FF or REW key, and fix it with the PB key.
After the adjustment, press the STOP key, and exit from the adjustment address 59.

18. Adjustment of Y recording current

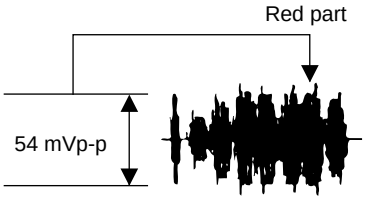
Measuring instrument	Oscilloscope
Mode	EE (VCR STOP)
Input signal (Tape)	Color bar
Test point	CH1; TL7410/TL7401 (GND) CH2; TL7409/TL7401 (GND)
Adjustment address	105
Adjustment level	185 ± 10 mVp-p



(1) Connect TL7455 and TL 7453 with a proper short-jumper.
(2) Select the address105.
(3) Set the oscilloscope.
① Connect the SIG side of oscilloscope CH1 probe to the TL7410, the GND side to the TL7401.
② Connect the SIG side of oscilloscope CH2 probe to the TL7409, the GND side to the TL7401.
③ Using the oscilloscope, invert either CH1 or CH2 signal, and add two signals.
④ At this time match the CH1 and CH2 volts levels.
(4) Change the data value, and make an adjustment to get the specified value at SYNC position.

19. Adjustment of C recording current

Measuring instrument	Oscilloscope
Mode	EE (VCR STOP)
Input signal (Tape)	Color bar
Test point	CH1; TL7410/TL7401 (GND) CH2; TL7409/TL7401 (GND)
Adjustment address	104
Adjustment level	54 ± 2 mVp-p



(1) Connect TL7454 and TL 7453 with a proper short-jumper.
(2) Select the address104.
(3) Set the oscilloscope.
① Connect the SIG side of oscilloscope CH1 probe to the TL7410, the GND side to the TL7401.
② Connect the SIG side of oscilloscope CH2 probe to the TL7409, the GND side to the TL7401.
③ Using the oscilloscope, invert either CH1 or CH2 signal, and add two signals.
④ At this time match the CH1 and CH2 volts levels.
(4) Change the data value, and make an adjustment to get the specified value at Red position.

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

5-3-6. Adjustment of audio circuit

Note: The data enclosed in the brackets [ ] are for the sub-channel.

1. Adjustment of filter f0

Measuring instrument	Oscilloscope
Mode	Playback
Input signal	—
Measuring terminal	TL605
Adjustment address	VCR ADJ 05F
Set value	—

(1) Connect the oscilloscope to TL605.
(2) Play back the stereo alignment tape (JiGWR5-9CS), and adjust so that the waveform envelop of TL605 becomes as smooth as possible. Before adjustment record the current data of adjustment address 05F. Whenever the TELE. WIDE key of adjustment remote controller is pressed, waveform MAIN/SUB is switched. Select the point which gives the flattest possible envelope.

2. Playback level adjustment

Measuring instrument	Voltage mater
Mode	Playback
Input signal	—
Measuring terminal	TL608 [TL607]
Adjustment address	VCR ADJ 05E [05D]
Set value	-7.5 dBs ±0.5 dB

(1) Before adjustment record the current data of adjustment address 05E and 05D.
(2) Be sure to connect the voltage mater to TL608 [TL607].
(3) Play back the stereo alignment tape (JiGWR5-9CS), and adjust so as to get an indication -7.5 dBs ±0.5 dB.
(4) Watching alternately TL608 and TL607, repeat adjustment of 05E and 05D.
(5) If data differs significantly from the first record value, this implies adjustment failure.

5-3-7. Adjustment of LCD display circuit

Adjustment procedures and connections are the same as with the VCR section. (Refer to item 5-3-3)

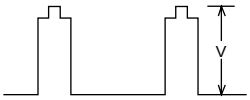
1. LCD Data Setting

VCR ADJ	
Address	Data
4C	7A
4D	B5
4E	96
4F	E5
50	64
51	A9
52	96
53	E5
4B	20
3B	40

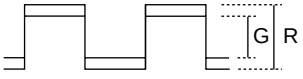
2. Inverter input Voltage Setting

VCR ADJ		
Address		Data
10		D9
11	3 type	BD
	3.5 type	C6
12	3 type	99
	3.5 type	A3

3. Contrast adjustment

Measuring point	TL1814 (G-OUT)	Address	40
Mode	VCR AV input		
Adjusting method	1) Set the data of address 47 at the address 80. 2) Input white 100% as an AV input. 3) Connect TL1804 to GND. (The 1H inversion stops.) 4) Connect 220 KΩ between TL802 and GND. 5) Seeing the waveform of TL1814 (G-OUT), make an adjustment between the white peak and the sync tip. 		
Adjustment standard	3.35V ± 0.1V		
Remarks	————		

4. R-W/B adjustment

Measuring point	TL1814 (G-OUT) TL1813 (R-OUT)	Address	41
Mode	VCR AV input		
Adjusting method	1) AV input: Nonsignal. 2) TL1814 (G-OUT): Oscilloscope CH1 TL1813 (R-OUT): Oscilloscope CH2 3) Adjust P-P of TL1813 becomes bigger 0.15V than TL1814. 		
Adjustment standard	±0.1Vp-p		
Remarks	————		

5. B-W/B adjustment

Measuring point	TL1814 (G-OUT) TL1815(B-OUT)	Address	42
Mode	VCR AV input		
Adjusting method	1) AV input: Nonsignal. 2) TL1814 (G-OUT): Oscilloscope CH1 3) TL1815 (B-OUT): Oscilloscope CH2 4) Adjust P-P of TL1815 become bigger 0.1V than TL1814.		
Adjustment standard	±0.1Vp-p		
Remarks	————		

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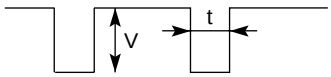
6. VCO adjustment

Measuring point	TL1802	Address	43
Mode	VCR AV input		
Adjusting method	1) AV input : NON Signal 2) Connect the frequency counter to TL1802, and adjust the frequency.		
Adjustment standard	15.625kHz ± 100Hz		
Remarks	————————		

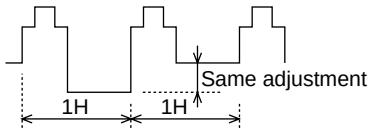
7. H-position adjustment

Measuring point	TL1802	Address	44
Mode	VCR AV input		
Adjusting method	1) Input the white 100% signal as an AV input. 2) Connect the oscilloscope to TL1802, and adjust the pulse width. 		
Adjustment standard	3 type 3.3 ± 0.15µsec/3.5 type 3.8 ± 0.15µsec		
Remarks	————————		

8. COMMON PULSE adjustment

Measuring point	TL1818	Address	22
Mode	VCR AV input		
Adjusting method	1) Set the data of address 47 at the address 80. 2) Input the white 100% signal as an AV input. 3) Connect the oscilloscope to TL1818, and adjust the pulse width.		
Adjustment standard	6.6Vp-p ± 0.1Vp-p		
Remarks	————————		

9. Burst phase adjustment

Measuring point	TL1815	Address	49
Mode	VCR AV input		
Adjusting method	1) Input the monochrome signal (R) to the AV input. 2) Connect TL1804 to GND. (1H inversion stop) 3) Set the data of address 48 to 30. 4) Minimize the signal level difference every 1H. 		
Adjustment standard	±400mV		
Remarks	————————		

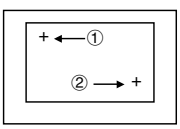
10. COM-BIAS adjustment

Measuring point	LCD panel display surface	Address	45
Mode	VCR AV input		
Adjusting method	1) Input the white 40% signal as an AV input, and set data of address 47 at the address 80. 2) Set the illuminometer (TOPCON IM-3) on the LCD panel surface (do not allow entry of external light). 3) Connect the illuminometer to the oscilloscope. 4) Make an adjustment so as to minimize the ripple of output waveform. Response time: 0.6 sec 5) Adjust again if longitudinal stripe appears evidently. * Or set to the point where the black is settled deepest with the grey scale signal.		
Adjustment standard	Minimum		
Remarks	Make an adjustment after aging for 5 minutes or more.		

11. W/B adjustment

Measuring point	LCD panel display surface	Address	41, 42
Mode	VCR AV input		
Adjusting method	1) White fade signal input. 2) Adjust so as to get the same white screen as that of standard monitor. (Adjust again, visually checking as stated in item 5. 6.)		
Adjustment standard	Standard monitor		
Remarks	Make an adjustment after aging for 5 minutes or more.		

12. Touch panel position detection adjustment (VL-H870S/H890S/H96E/H960E)

Measuring point	LCD panel display area
Mode	VCR AV input
Adjusting method	1) Enter the adjustment of touch panel adjustment mode. (TEST mode OE) 2) Press successively the two-points OSD indication cross-shaped (+) one by one ① the left above→ ② the right below (setting point) → ③④ (as you pleases). Set back the adjustment mode by fifth touch (⑤).  Note: As touch the two-points indication (+), display the blue (①②) → the purple (③④), the case color a light blue is the adjustment "OK" and the red is the adjustment "NG". The touch (③④) can check the adjustment with the tip of finger indiation.

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VL-H890S/VL-H94E
VL-H96E/VL-H960E

5-4. ADJUSTMENT OF CAMERA SECTION

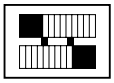
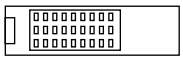
5-4-1. Servicing of camera section

(1) Object, measuring instrument and jigs necessary for camera section servicing

• Gray scale chart • Vectorscope • Extension cable • Oscilloscope • Video output cable	• Color bar chart • Color temperature conversion filter HOYA "LB-165" • Digital voltmeter	• Halogen light (2 pcs.) • Color video monitor • AC adapter • Service Remote Control

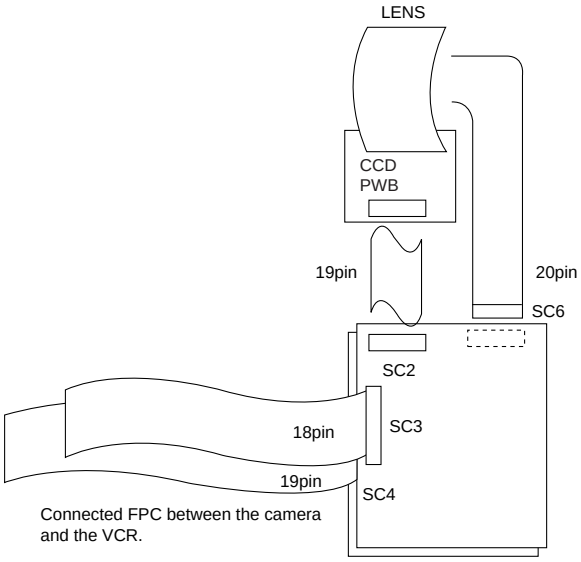
Configuration

<Note: The entries of list> 1. Name 2. Part No. 3. Code

 1. Gray Scale Chart (390 x 520 mm) 2. JiGCHART-1 3. CP	 1. Color Bar Chart (240 x 320 mm) 2. JiGCHART-4 3. DA	1. Color Temperature Conversion Filter 2. JiGHOYA-LB165 3. BN	 1. Service Remote Control 2. RRMCG0033TASA 3. BT

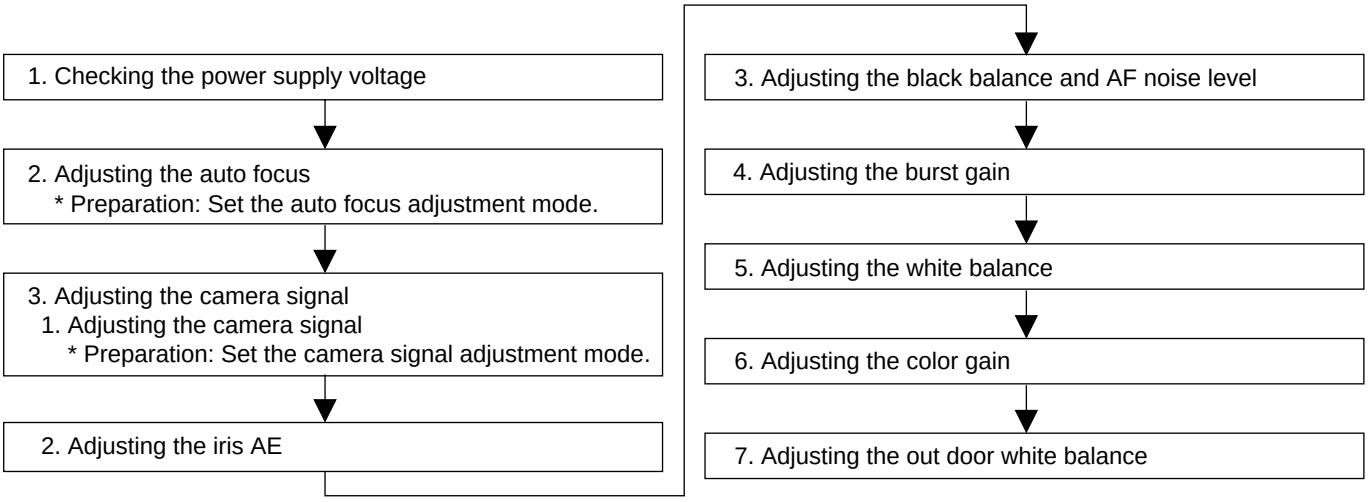
Note:
1. Color temperature conversion filter (jig item No.3) may be obtained from HOYA Optics in your local market.
2. N: Indicates the new jigs.

• Connections for Camera Section Servicing



5-4-2. Adjustment procedures

This adjusting procedure covers all the steps for conducting the adjustments all the way. There are some steps that may be skipped, depending on the specific needs for servicing and adjustment.


1. Checking the power supply voltage
2. Adjusting the auto focus
* Preparation: Set the auto focus adjustment mode.
3. Adjusting the camera signal
1. Adjusting the camera signal
* Preparation: Set the camera signal adjustment mode.
2. Adjusting the iris AE
3. Adjusting the black balance and AF noise level
4. Adjusting the burst gain
5. Adjusting the white balance
6. Adjusting the color gain
7. Adjusting the out door white balance

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5-4-2-1. Checking the power supply voltage

- Measuring terminal: CAM 4.9V
  CAM 2.8V
  CAM 3.1V
  CAM 15V
  CAM -7V
  LENS 5V
- Measuring instrument: Digital voltmeter

5-4-2-2. Auto focus adjustment

• Basic iris adjustment

Measuring instrument	None
Subject	—
Tape	—
Test point	None
Adjustment address	1FF
Adjustment level	09, 0A, 0B

DATA	Adjustment
09	Hall offset
0A	Iris offset
0B	Iris close

1) Set up the auto focus adjustment mode. (Write 01 to the address 1FE)
2) Write the adjustment data 09, 0A and 0B one after the other to the address 1FF, the adjustment are as above.

• Lens adjustment

Measuring instrument	None
Subject	More than 50 m away
Tape	—
Test point	None
Adjustment address	1FF
Adjustment level	11, 12, 06, 08, 0D

DATA	Adjustment
11	Voltage adjustment
12	Optical wide-end adjustment
06	Wide-end focus ∞ position adjustment
08	Tele-end focus ∞ position adjustment
0D	Zoom tracking adjustment

1) Set up the auto focus adjustment mode.
   (This is unnecessary after the above basic iris adjustment has been made.)
2) Write the adjustment data 11, 12, 06, 08 and 0D one after the other to the address 1FF. The adjustments are as above.

Write FF to the address 1FE to exit the auto focus adjustment mode.

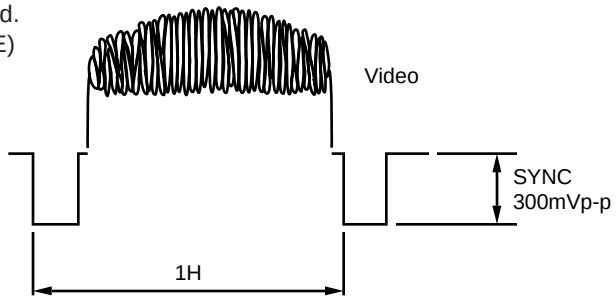
5-4-2-3. Adjustment of Camera signal

- Before starting these adjustment, auto focus adjustment must be finished.
- Set up the camera signal adjustment mode (Write 00 to the address 1FE)

1. Sync level adjustment

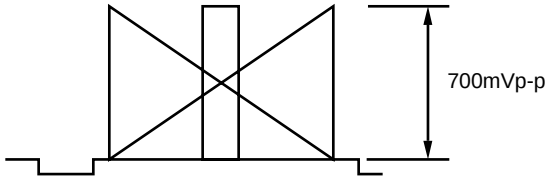
Measuring instrument	Oscilloscope
Subject	Anything
Tape	—
Test point	VIDEO OUT (Terminated in 75Ω)
Adjustment address	1F8
Adjustment level	300mVp-p

1) Connect the oscilloscope to the VIDEO-OUT. Adjust the sync level to 300mVp-p.



2. Iris AE adjustment

Measuring instrument	Oscilloscope
Subject	Gray scale
Tape	—
Test point	VIDEO-OUT
Adjustment address	1FC
Adjustment level	700mVp-p



1) Shoot the gray scale in the standard way. Observe the VIDEO-OUT signal on the oscilloscope screen and rewrite the data of address 1FC to get an amplitude of 700mVp-p as shown above.

3. Black balance , AF noise level adjustment

Measuring instrument	None
Subject	Anything
Tape	—
Test point	None
Adjustment address	1FF
Adjustment level	01

1) Preparation : Write FF to address 19C, 19D, 19E, 19F, 1AO, 1AI.
2) Write the data 01 to the address 1FF.
   The following adjustments are automatically carried on ; ① Black balance adjustment
   ② AF noise level adjustment
   at AGC Gain Min , AGC Gain Max and Gain up.
3) Data processing after adjusting the noise level calculation formula (Round off fractions).

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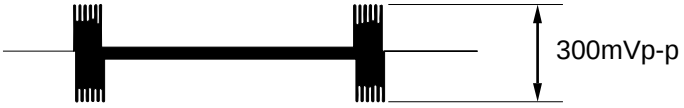
4. Data processing after adjusting the black balance

1) 5 digit subtraction from ROB adjustment data at AGC MIN (address 19Ch) = (address 19ch) - 5h
   5 digit subtraction from ROB adjustment data at AGC MAX (address 19Dh) = (address 19Dh) - 5h
   5 digit subtraction from ROB adjustment data at GAIN UP (address 19Eh) = (address 19Eh) - 5h

5. Burst gain adjustment

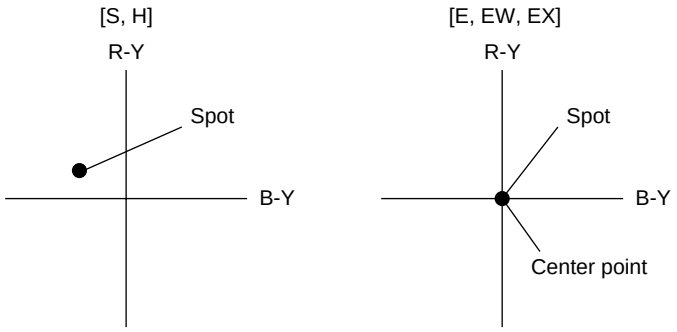
Measuring instrument	Oscilloscope
Subject	None
Tape	—
Test point	VIDEO OUT (Terminated in 75 Ω)
Adjustment address	1F9
Adjustment level	300mVp-p



1) Measure the burst signal level on the oscilloscope. Using the address 1F9, adjust the burst amplitude to 300mVp-p.

6. White balance adjustment

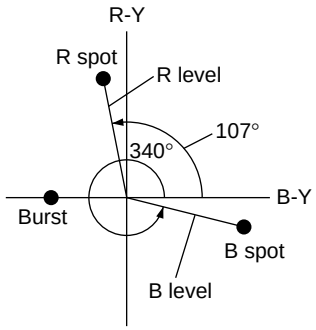
Measuring instrument	Vector scope
Subject	Gray scale
Tape	—
Test point	VIDEO OUT (Terminated in 75 Ω)
Adjustment address	R-W/B 010, B-W/B 012
Adjustment level (E, EW, EX model)	R-W/B 0 % ± 3 % B-W/B 0 % ± 3 %
(S, H model)	R-W/B 19 % ± 3 % B-W/B -11 % ± 3 %



1) E, EW, EX model adjust the spot to the center of vector scope (R-Y : 0%, B-Y : 0%) using address 010 and 012.
   S, H model adjust the spot to the point of vector scope (R-Y : 19%, B-Y : -11% ratio to burst) using address 010 and 012.

7. Color gain adjustment

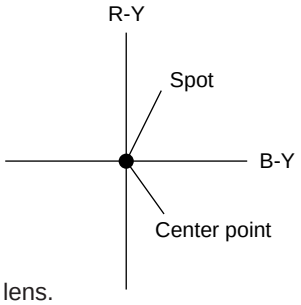
Measuring instrument	Vector scope
Subject	Color bar chart
Tape	—
Test point	VIDEO OUT (Terminated in 75 Ω)
Adjustment address	R GAIN 0DD B GAIN 0DB R MAT 0D7 B MAT 0D9
Adjustment level	R GAIN; Burst ratio 1.2 ± 0.1 B GAIN; Burst ratio 1.0 ± 0.1 R MAT; 107 ± 2° B MAT; 340 ± 2°



1) Using the address 0DD, adjust the R level to a burst ratio of 1.2. With the address 0DB, adjust the B level to a burst ratio of 1.0.
2) Using the address 0D7, adjust the R phase to 107°. With the address 0D9, adjust the B phase to 340°.
3) Repeat the above steps 1) and 2).

8. Out door white balance adjustment

Measuring instrument	Vector scope
Subject	Gray scale
Tape	—
Test point	VIDEO OUT (Terminated in 75 Ω)
Adjustment address	R-OUT DOOR 016 B-OUT DOOR 018
Adjustment level	R-OUT DOOR; 0 ± 3 % B-OUT DOOR; 0 ± 3 %



1) Attach the color temperature conversion filter (JiGHOYA-LB165) to the front of the lens.
2) Using the addresses R-OUT DOOR 016 and B-OUT DOOR 018, adjust the spot to the center.
3) Take off the color temperature conversion filter.

When you have finished, write FF to the adress 1FE to exit camera signal adjustment mode.

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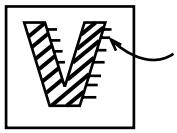
5-5. TROUBLE SHOOTING

5-5-1. Classification of troubles

No function at all	YES	Check the Power circuit and system control circuit.
No tape ejection	YES	Check the system control and loading motor circuit.
No LCD light-up	YES	Check the inverter transformer and power circuit.
No picture in EE mode	YES	* Check the camera section and Y/C circuit and LCD circuit.
No picture playback	YES	Check the Y/C circuit and head amplifier circuit.
No video recording	YES	Check the Y/C circuit and head amplifier circuit.
Streaking at self-recording/playback	YES	Check the Y/C circuit and head amplifier circuit.



Noises at regular intervals in playback	YES	Check the ATF circuit.
No recorded characters on screen	YES	Check the LCD circuit and character generator (IC705).
No color in EE mode	YES	* Check the camera section and Y/C circuit.
No color in playback	YES	Check the Y/C circuit and head amplifier circuit.
No color in recording	YES	Check the Y/C circuit and head amplifier circuit.
No sound	YES	Check the audio circuit.
Error message (e.g. E007)	YES	Check the system controller and CAP MOTOR DRIVER circuit.

Normal

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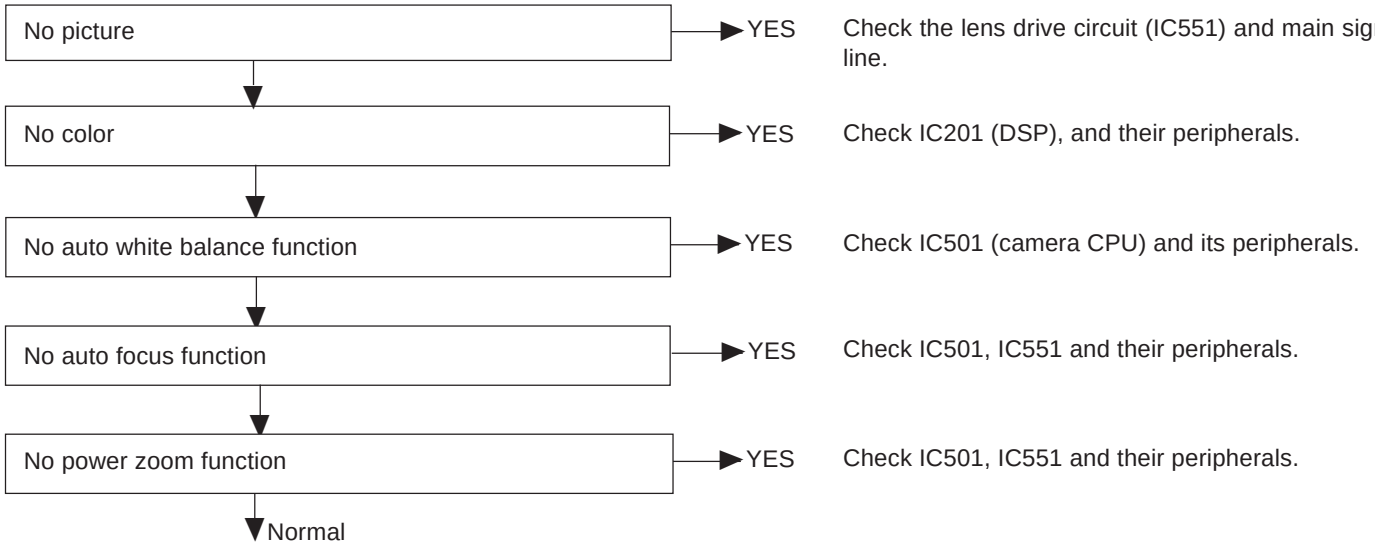
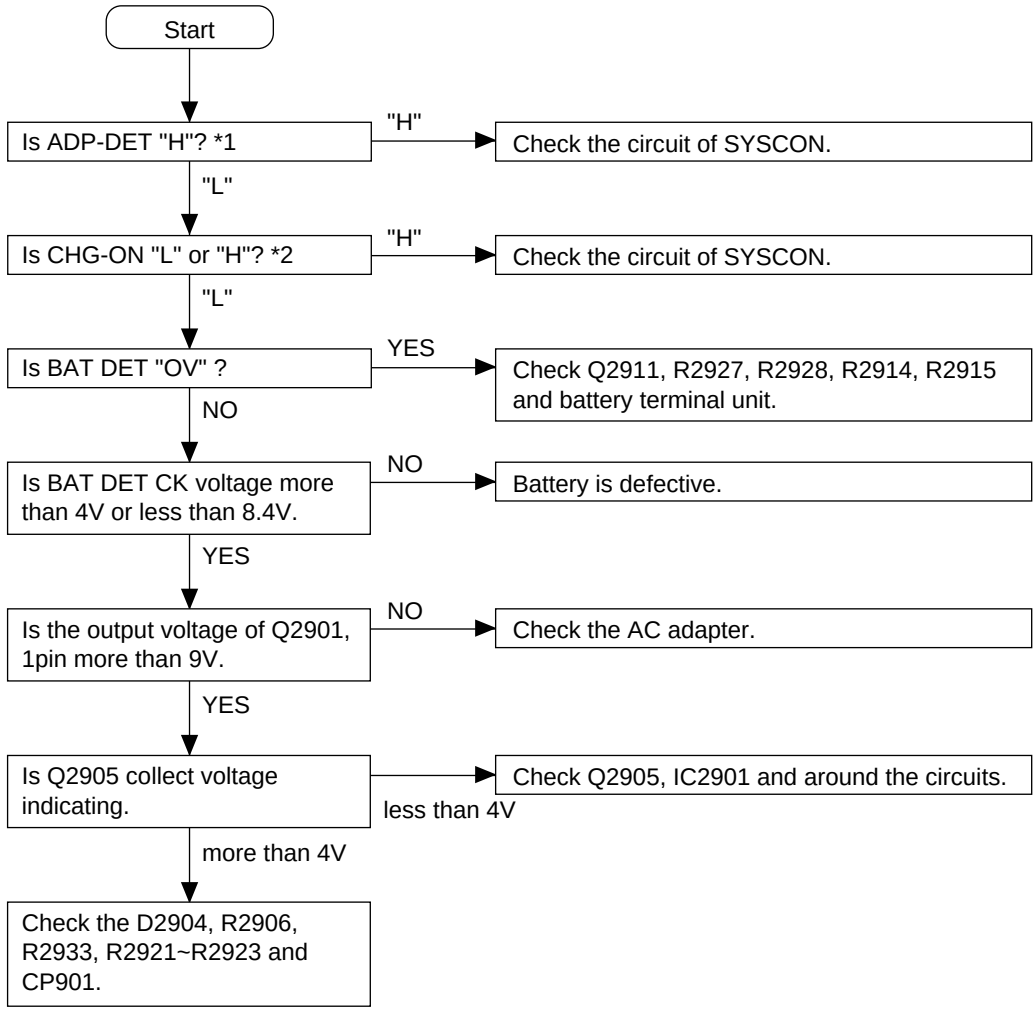
VL-H890S/VL-H94E
VL-H96E/VL-H960E

5-5-2. Troubleshooting for the camera section



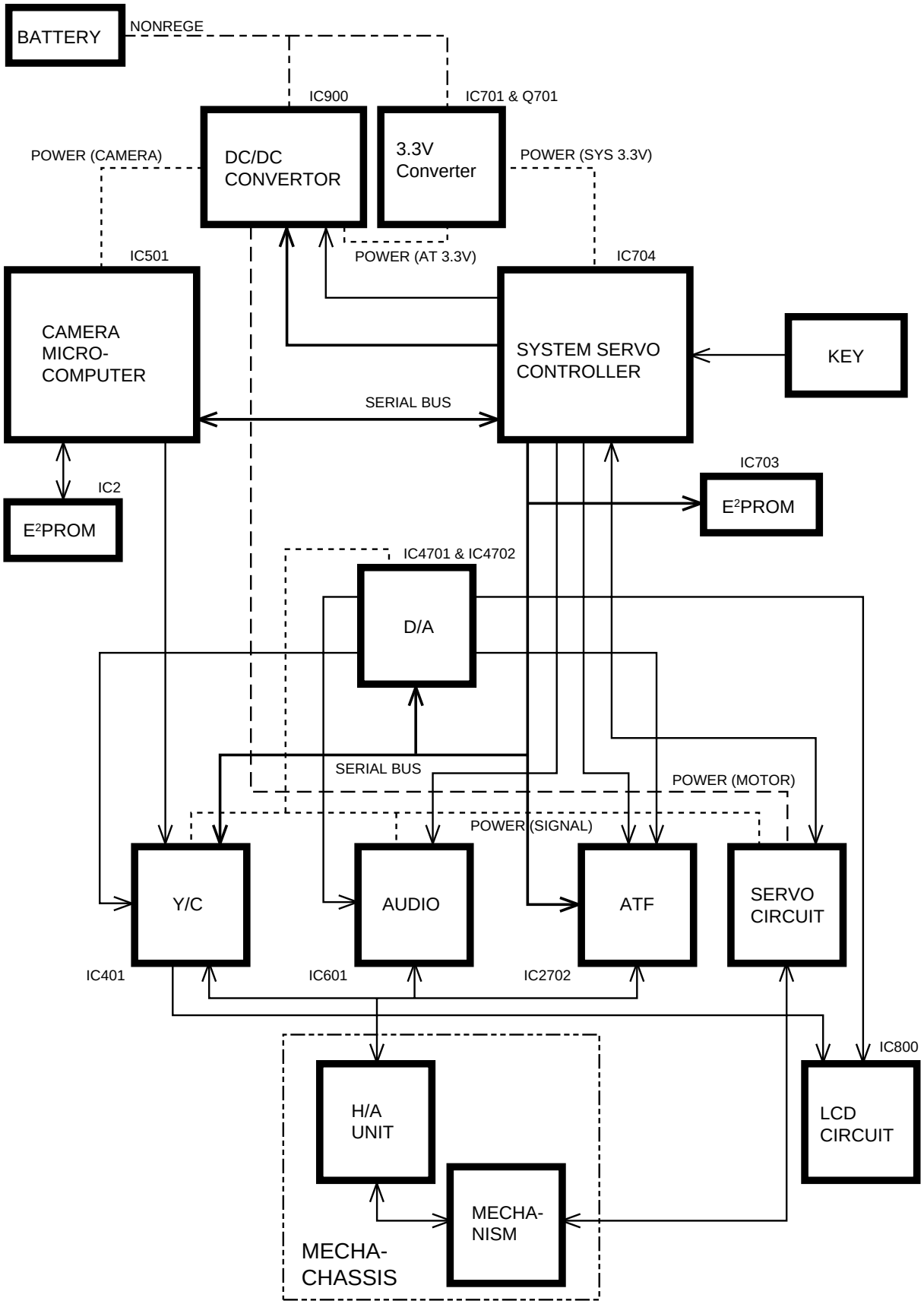
5-5-3. Charging mode troubles



*1: Inputting DC power and set the ADP DET "L".
*2: Inputting charging mode as CHG ON "L".

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

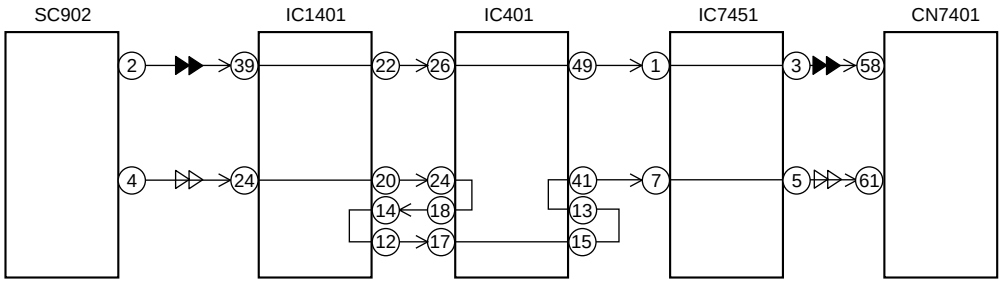
6. SYSTEM BLOCK DIAGRAMS



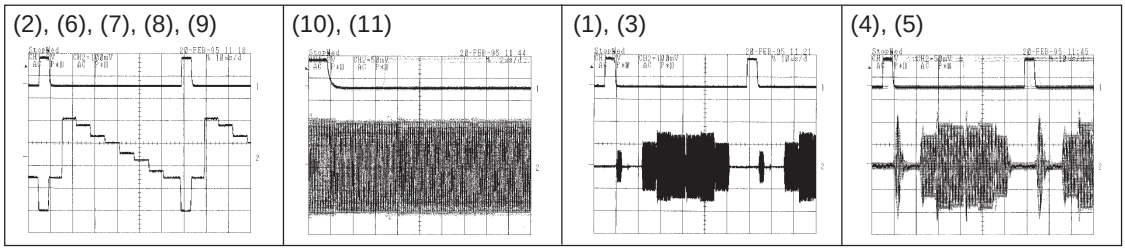
* On this model, all the circuits of the VCR and camera sections are controlled by IC704 and IC501.
  1) IC501 and IC401 are controlled with the serial data from IC704.
  2) IC703 is a memory that serves to store the adjustment data of the VCR section.
  3) IC2 is a memory that serves to store the adjustment data of the camera section.
  4) The other circuits and ICs are under the L/H level or the PWM control.

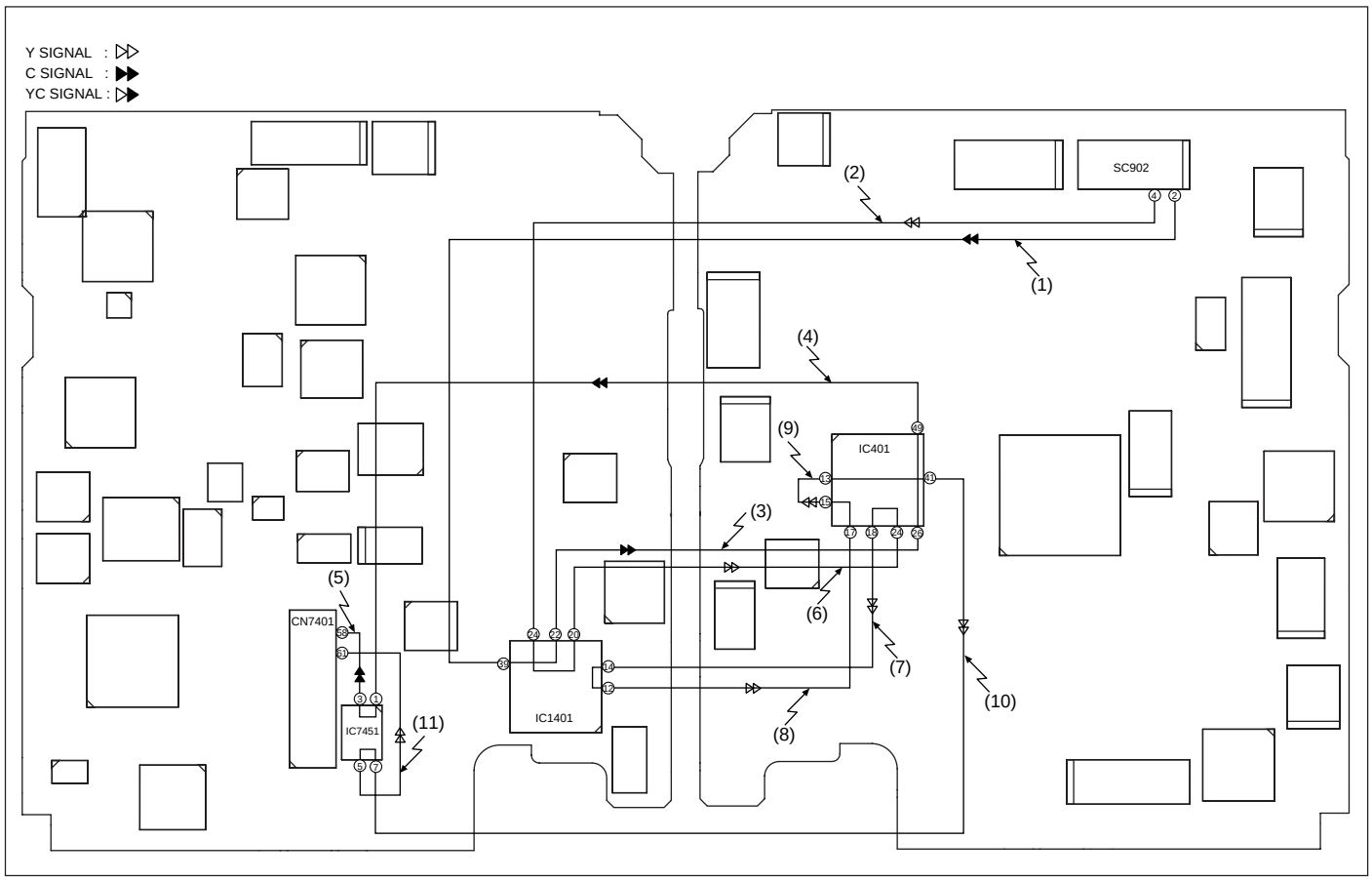
VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

6-1. CAMERA SECTION BLOCK DIAGRAM



Signal waveform





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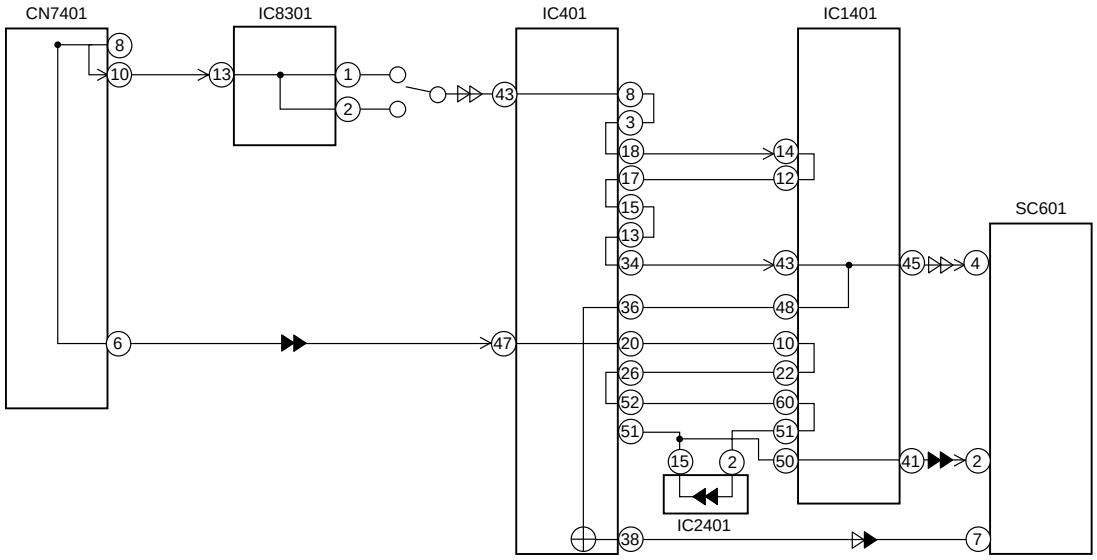
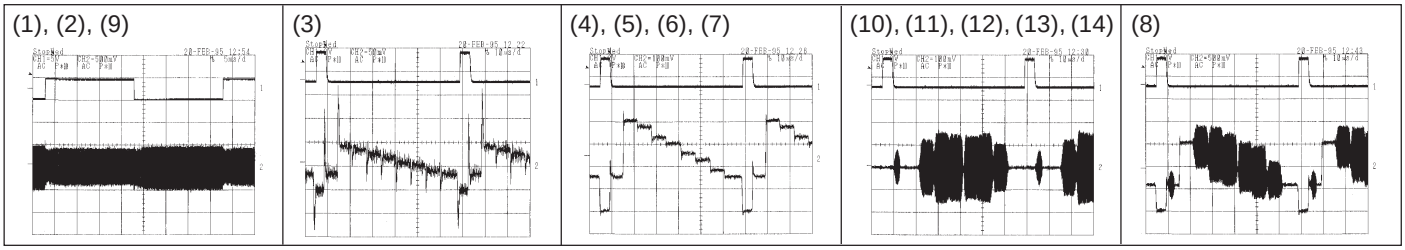
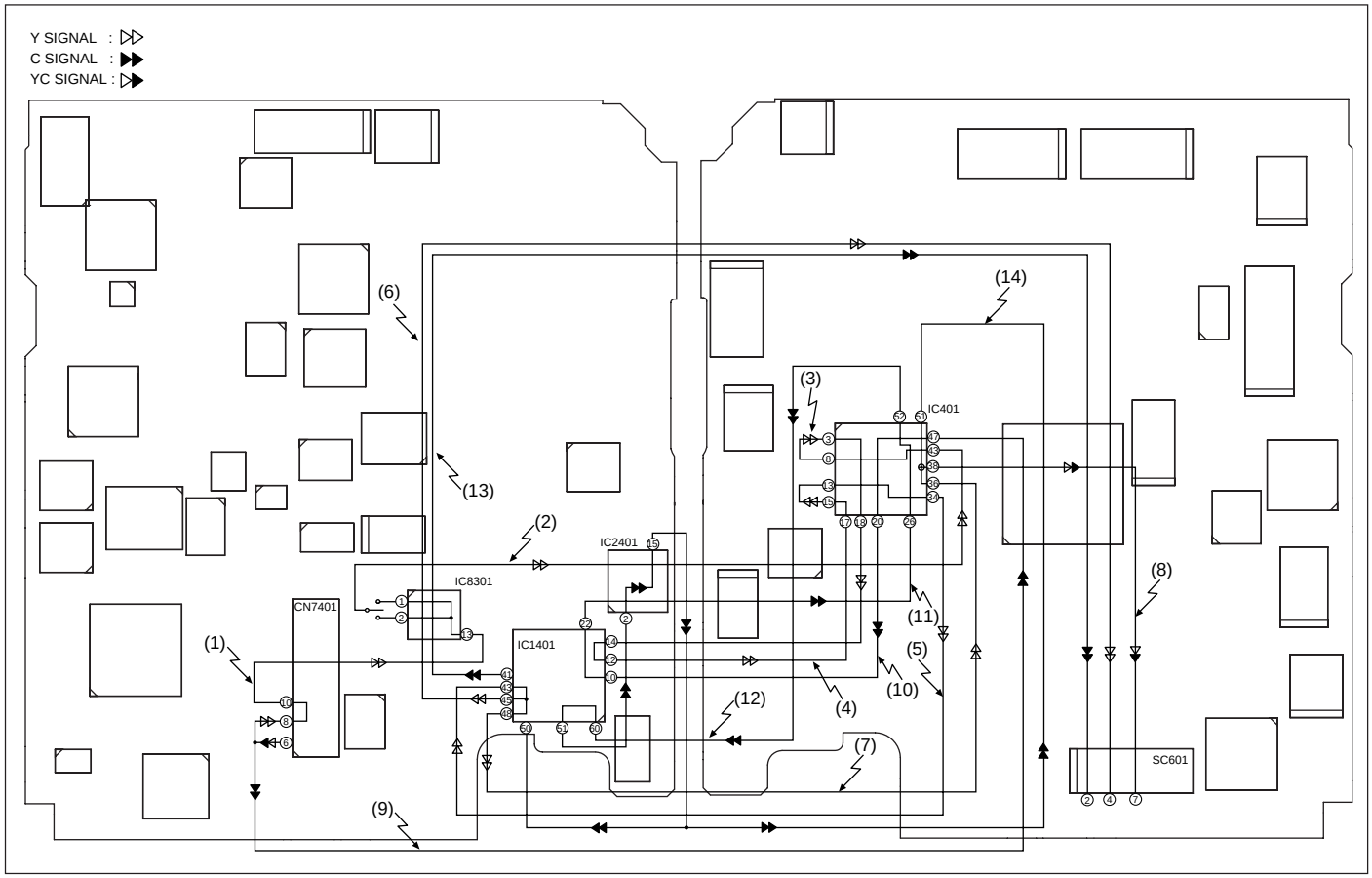
VL-H890S/VL-H94E
VL-H96E/VL-H960E

6-2. VCR SECTION BLOCK DIAGRAM Y/C playback signal frow



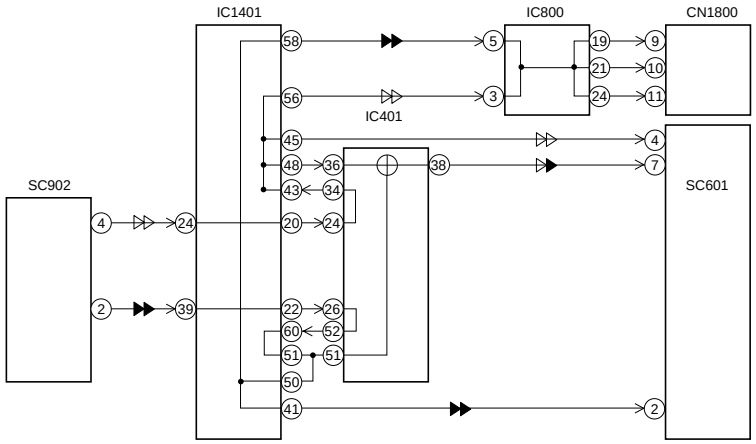
Signal waveform





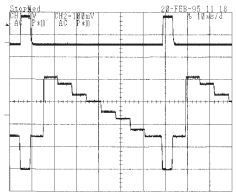
VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

6-3. VCR SECTION BLOCK DIAGRAM Y/C EE signal frow

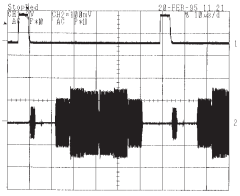


Signal waveform

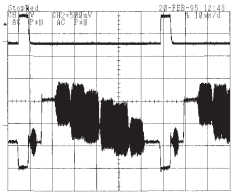
(2), (7), (8), (9), (10), (12)



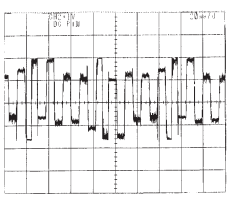
(1), (3), (4), (5), (11), (13)



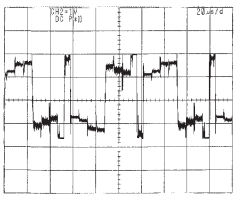
(6)



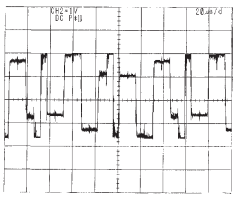
(16)

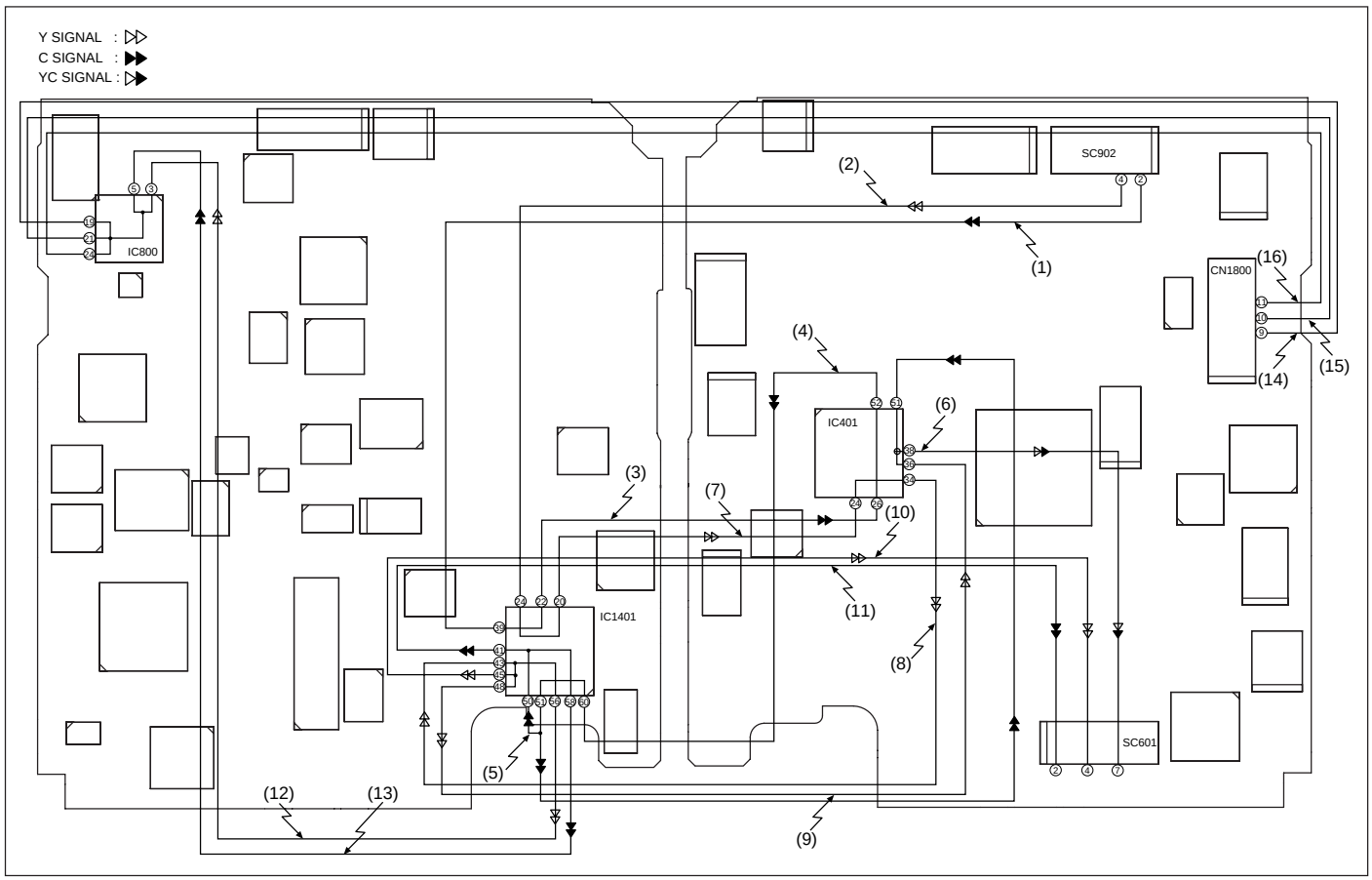


(15)



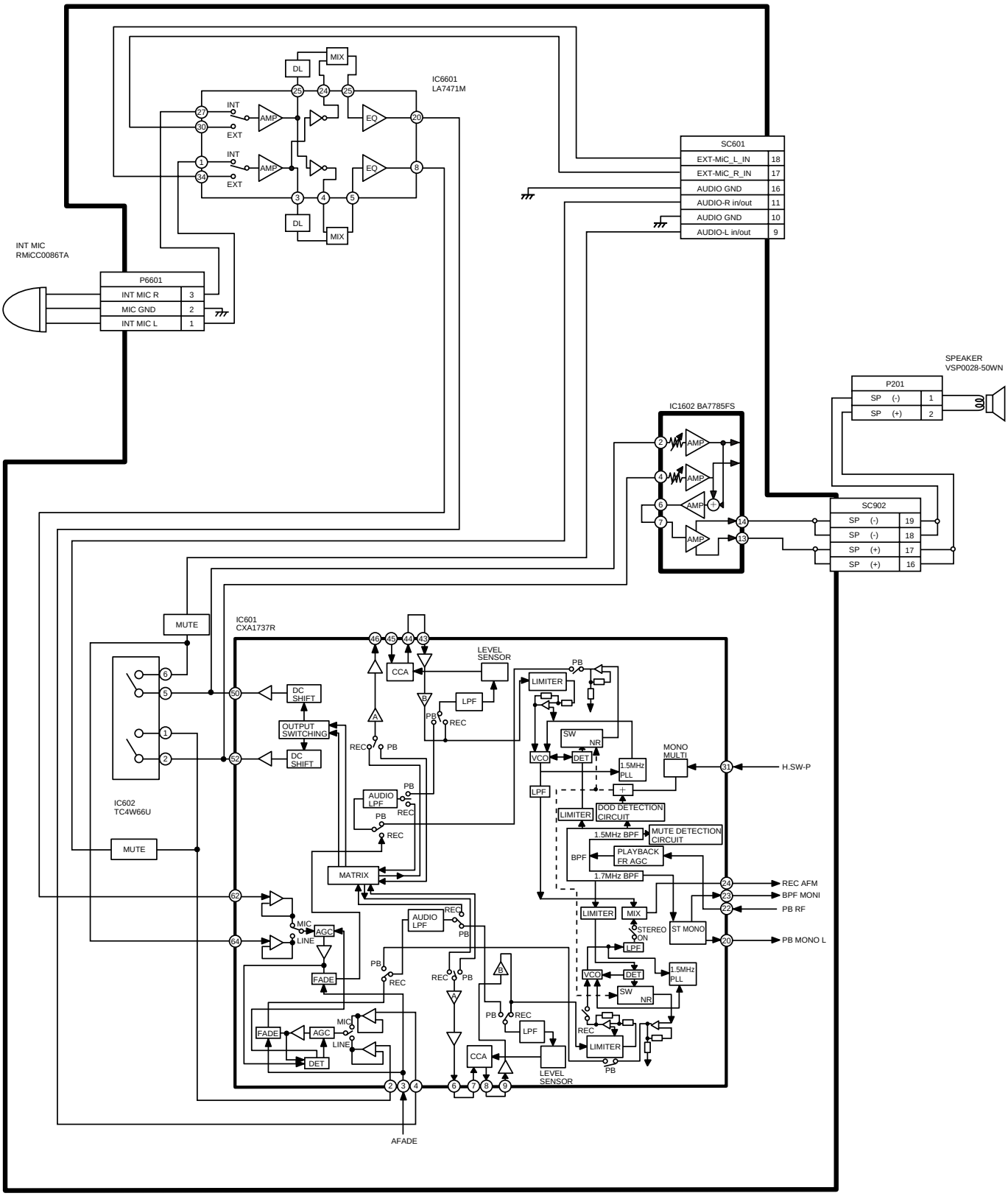
(14)





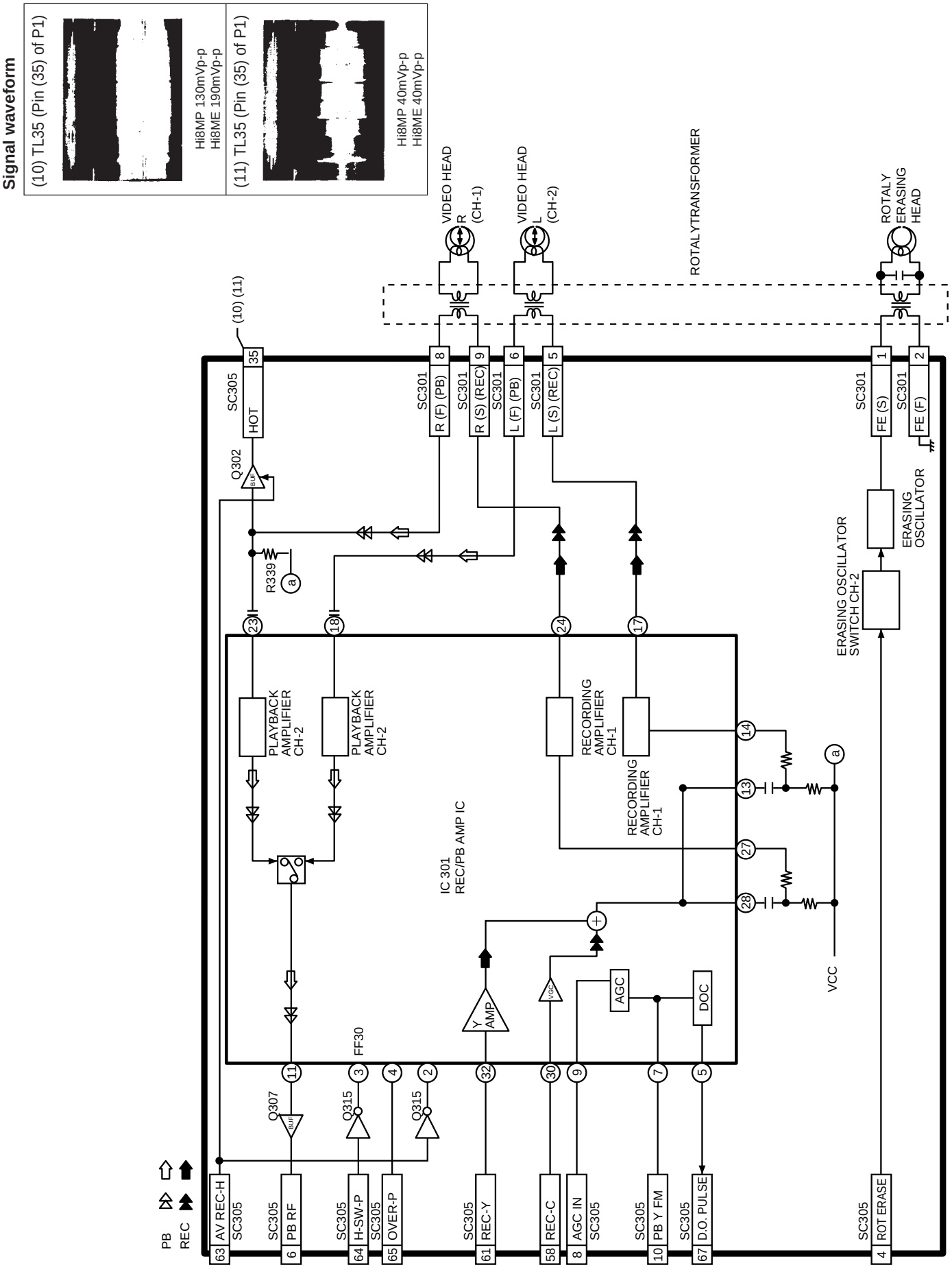
VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

6-4. AUDIO BLOCK DIAGRAM



VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

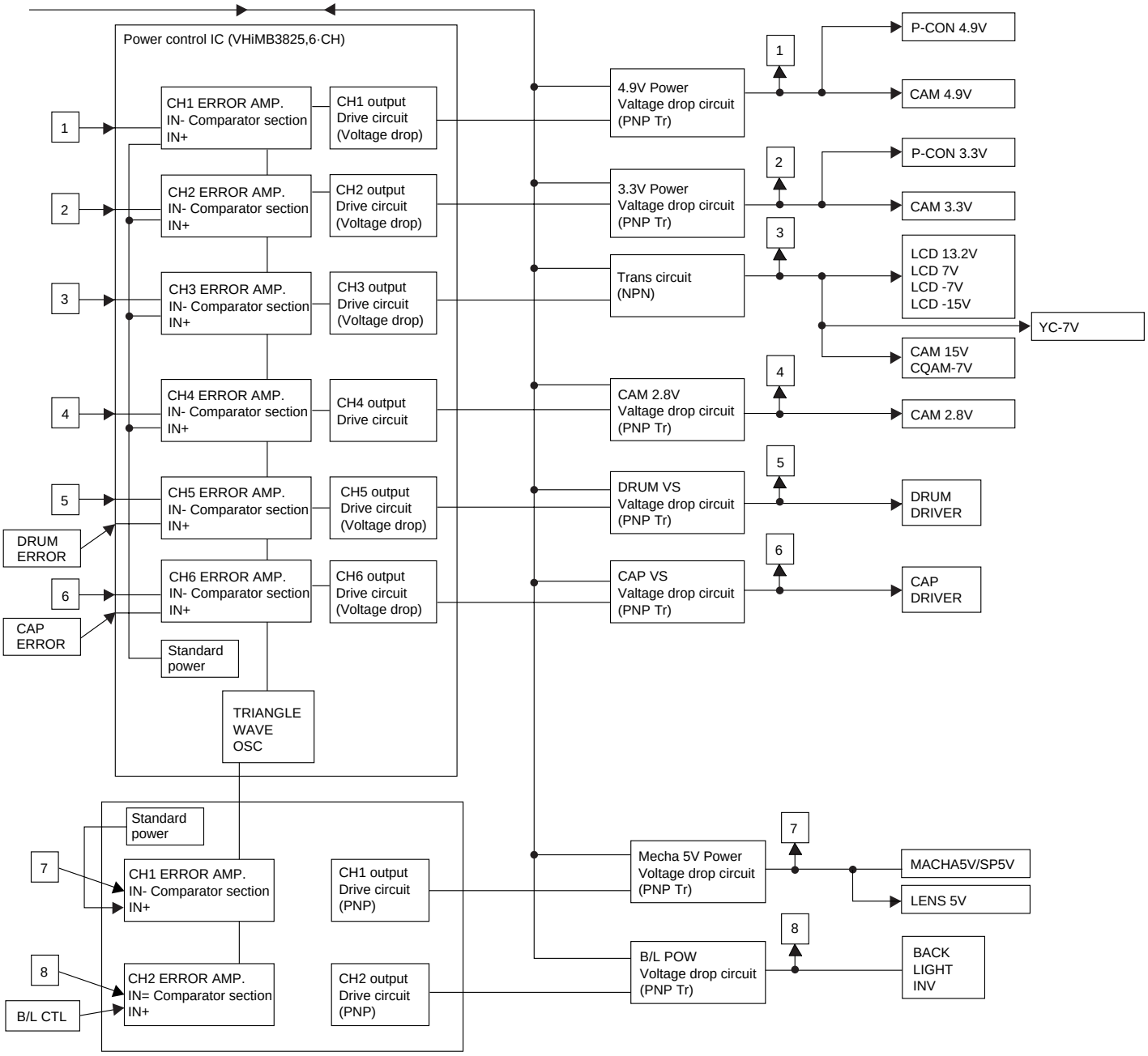
6-5. HEAD AMP BLOCK DIAGRAM



VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

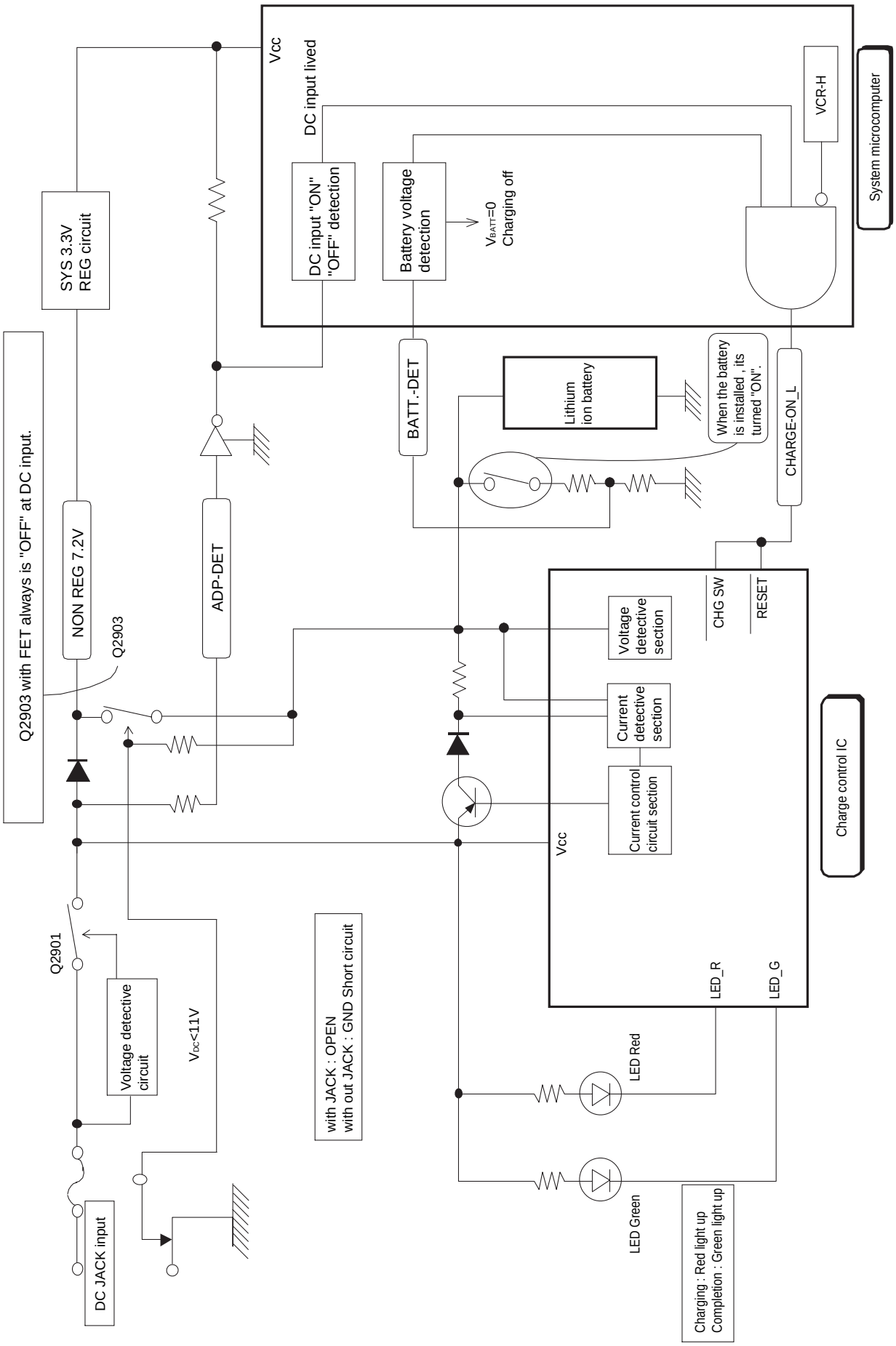
6-6. POWER SYSTEM BLOCK DIAGRAM

Lithium ion 2 cell



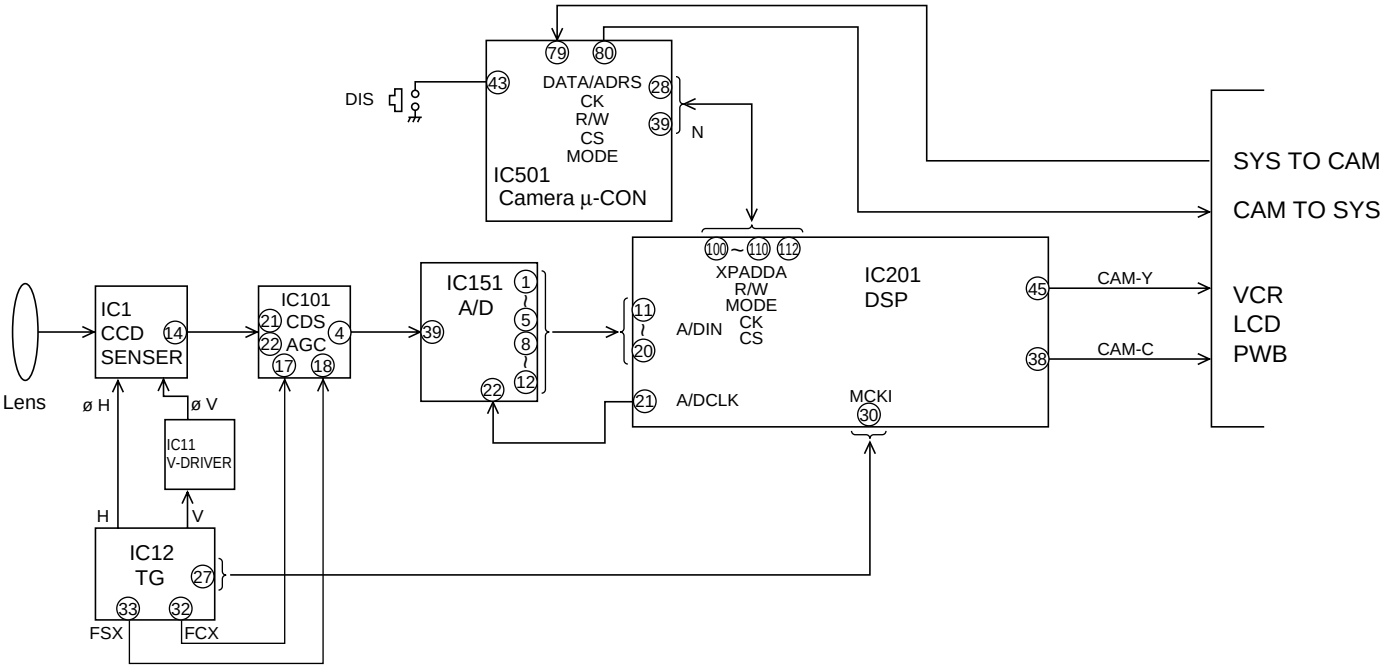
VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

6-7. MAIN BATTERY CIRCUIT SECTION BLOCK DIAGRAM

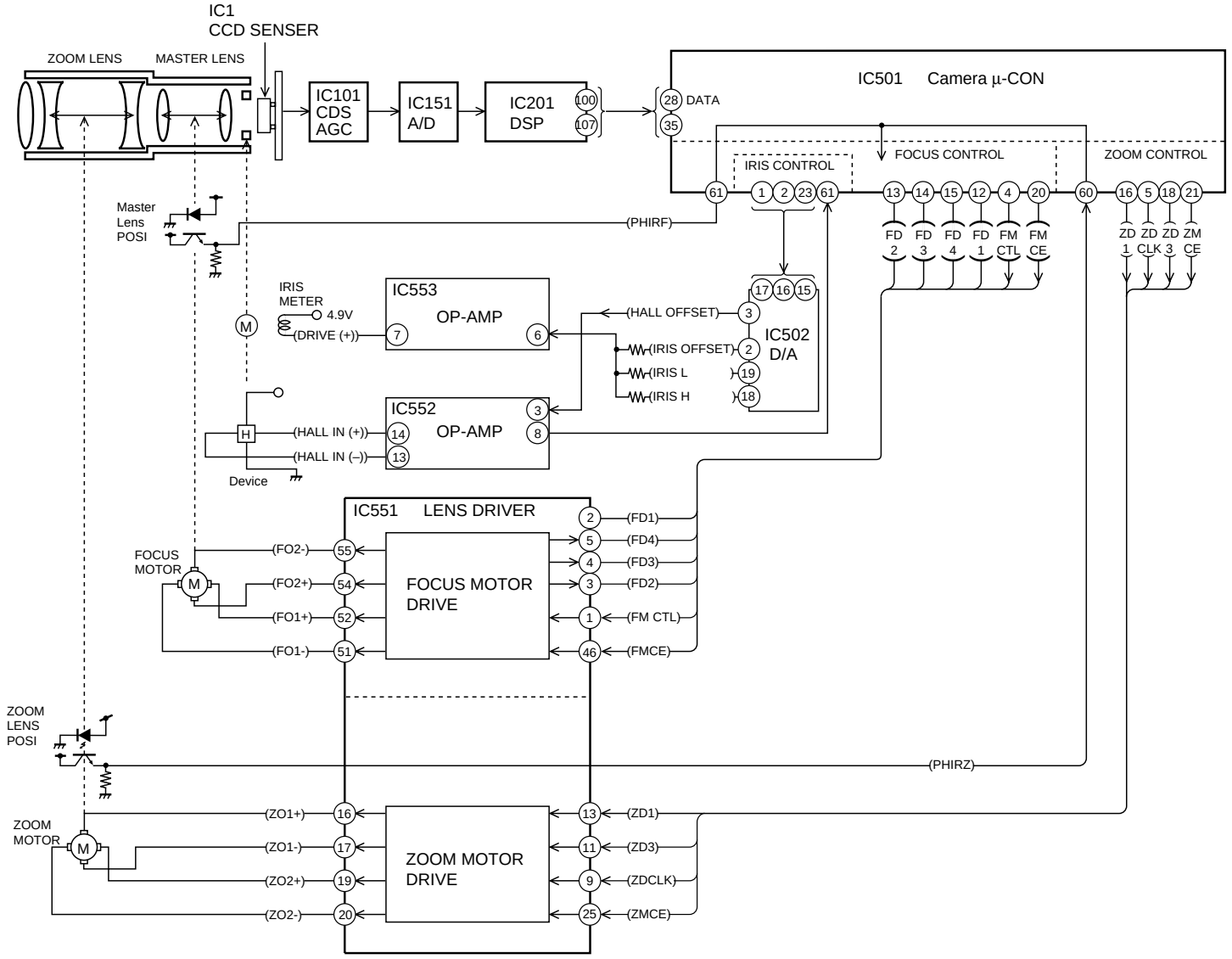


VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

6-8. CAMERA SECTION BLOCK DIAGRAM

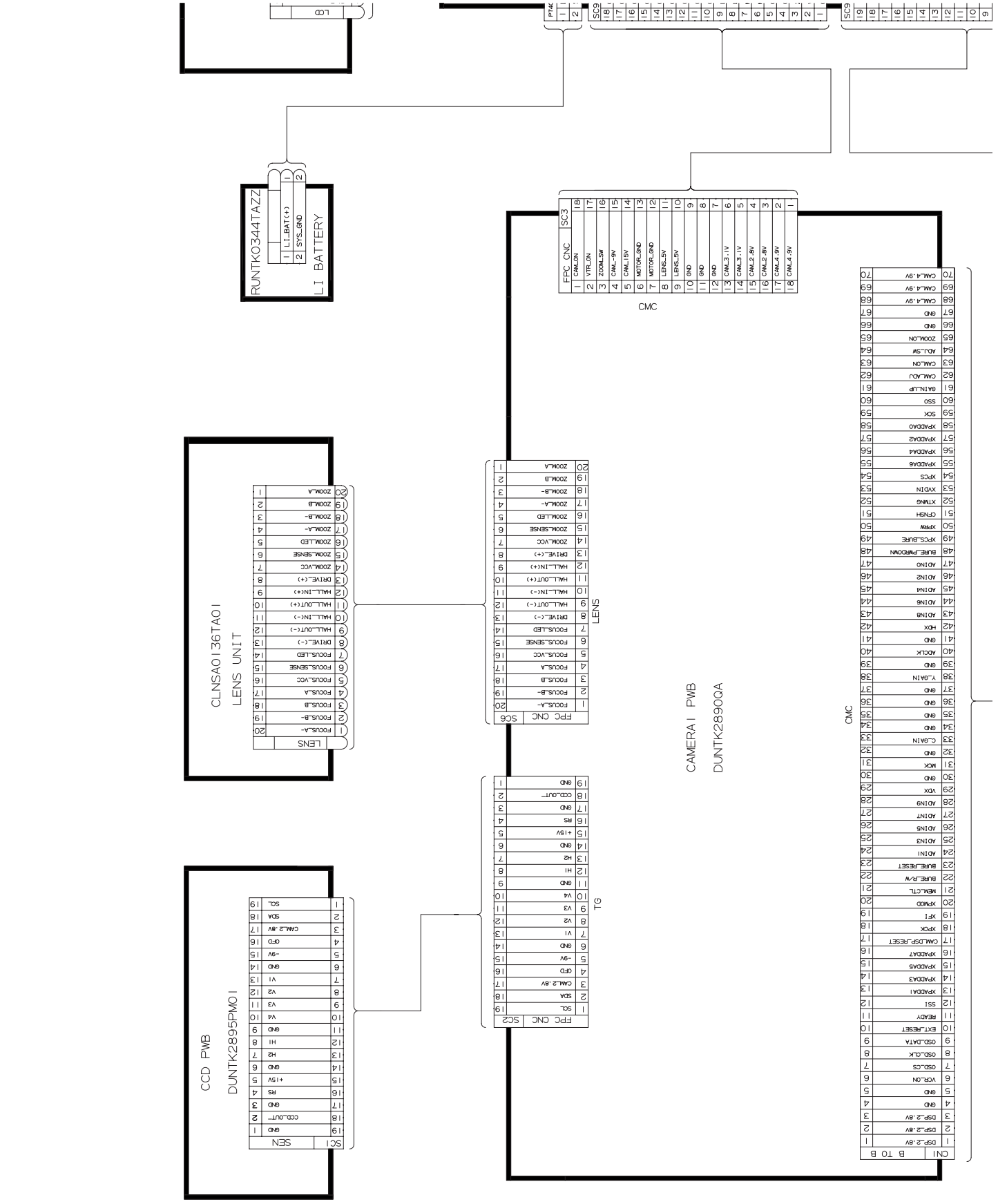


6-9. LENS DRIVE BLOCK DIAGRAM



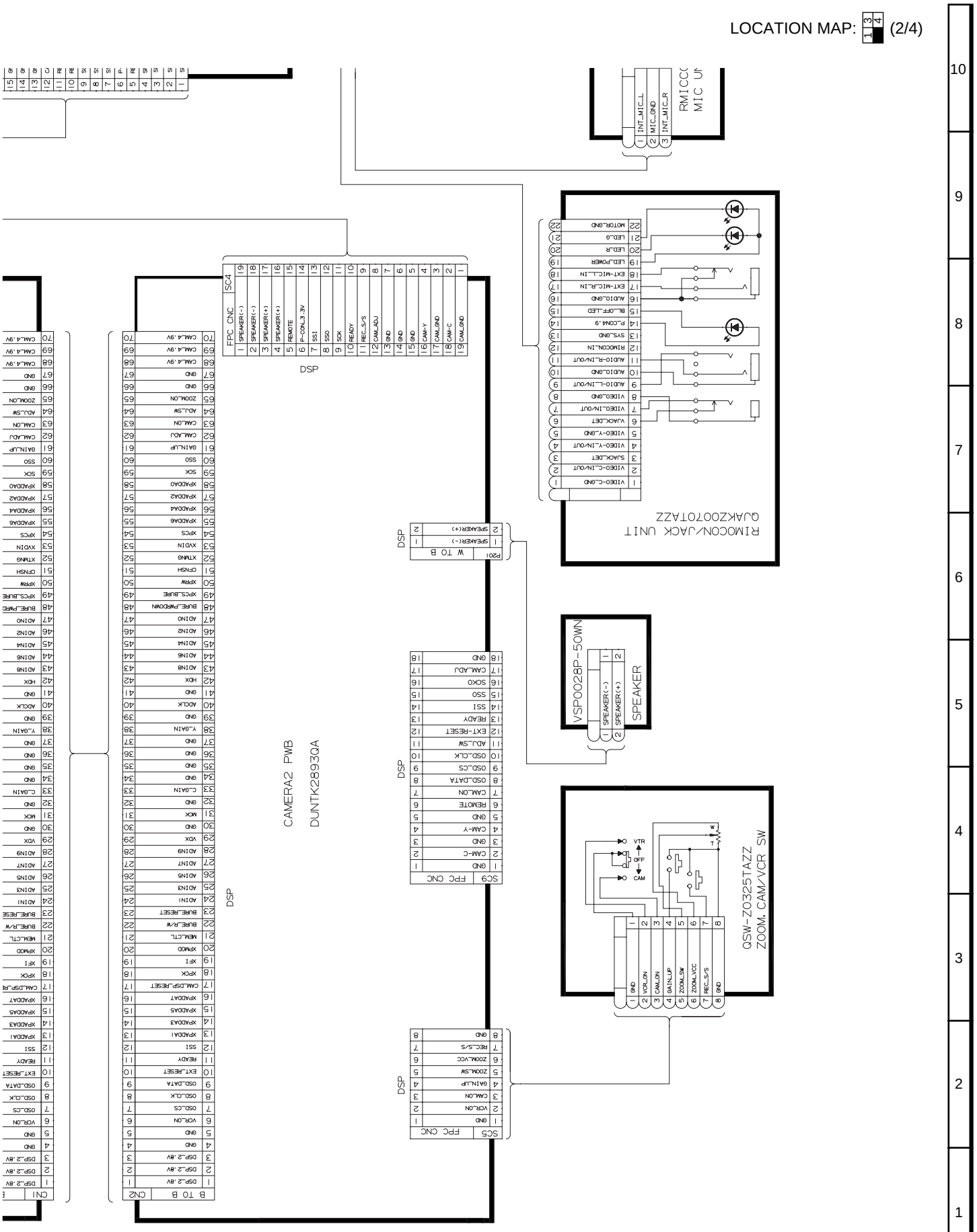
7. SCHEMATIC DIAGRAMS 7-1. OVERALL SCHEMATIC DIAGRAM (VL-H860S/H/H94E)

LOCATION MAP: 3 4 / 2 (1/4)

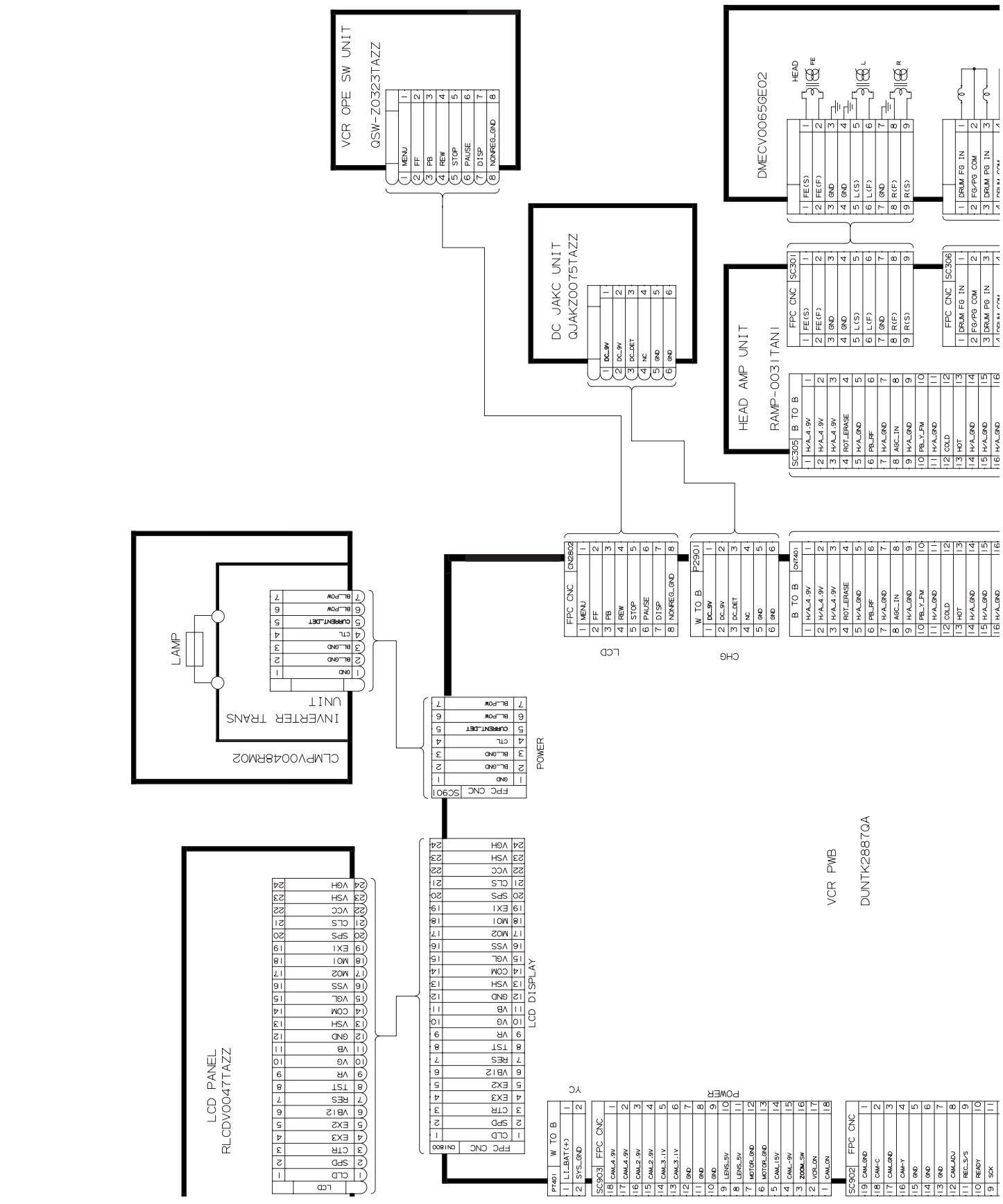


S R Q P O N M L K J

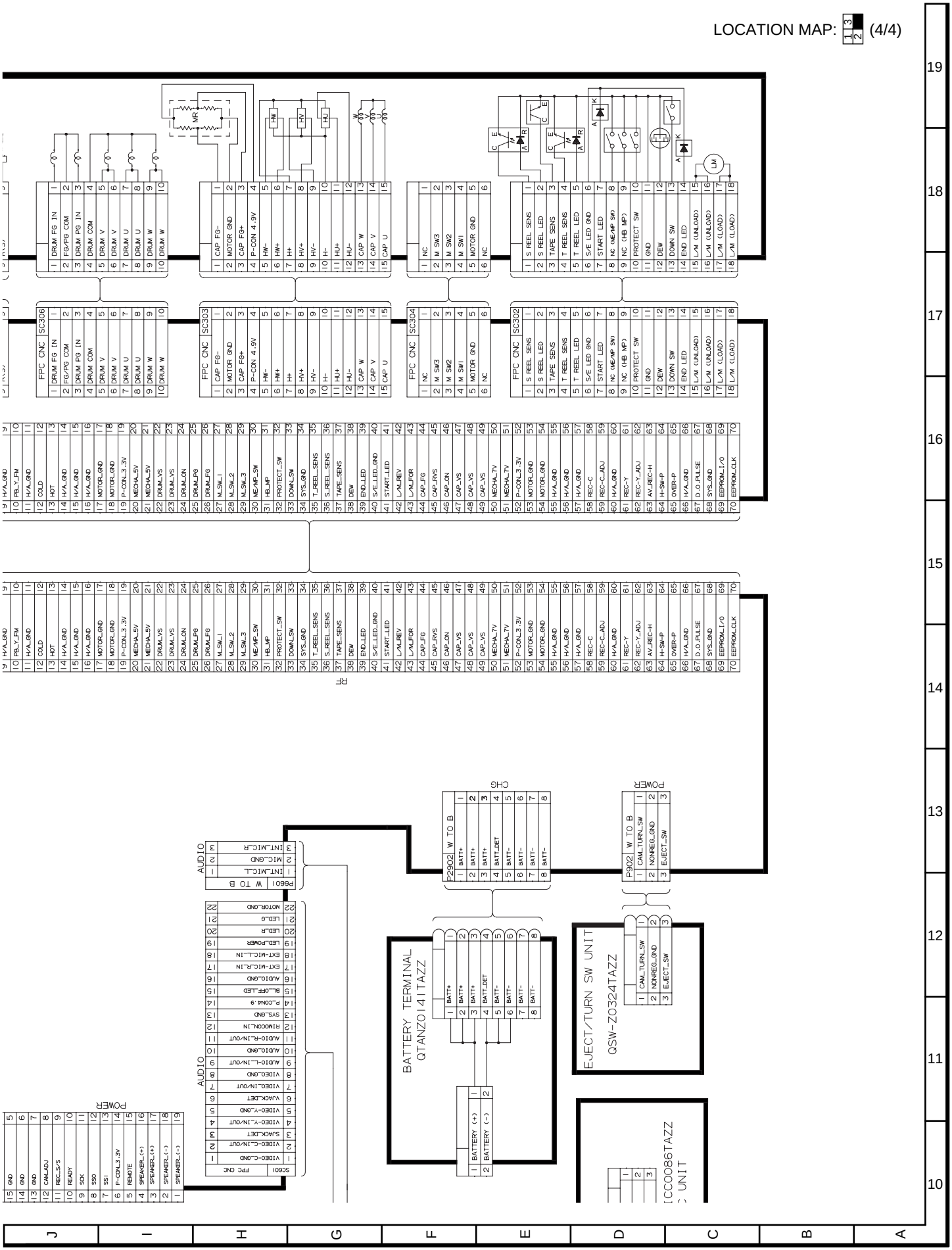
LOCATION MAP: 1 3 4 (2/4)



LOCATION MAP: 1 2 4 (3/4)

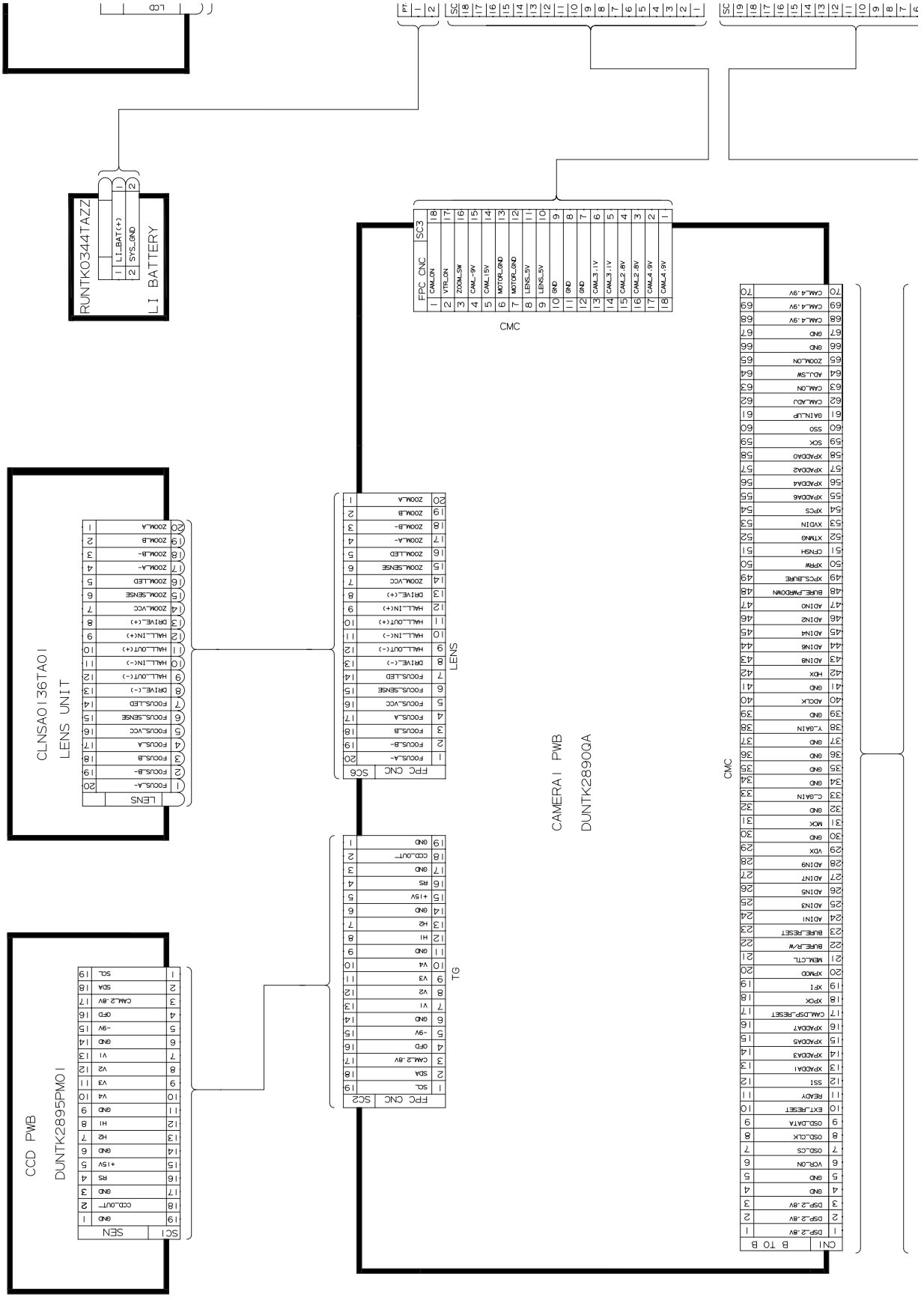


LOCATION MAP: 1 3 / 2 (4/4)



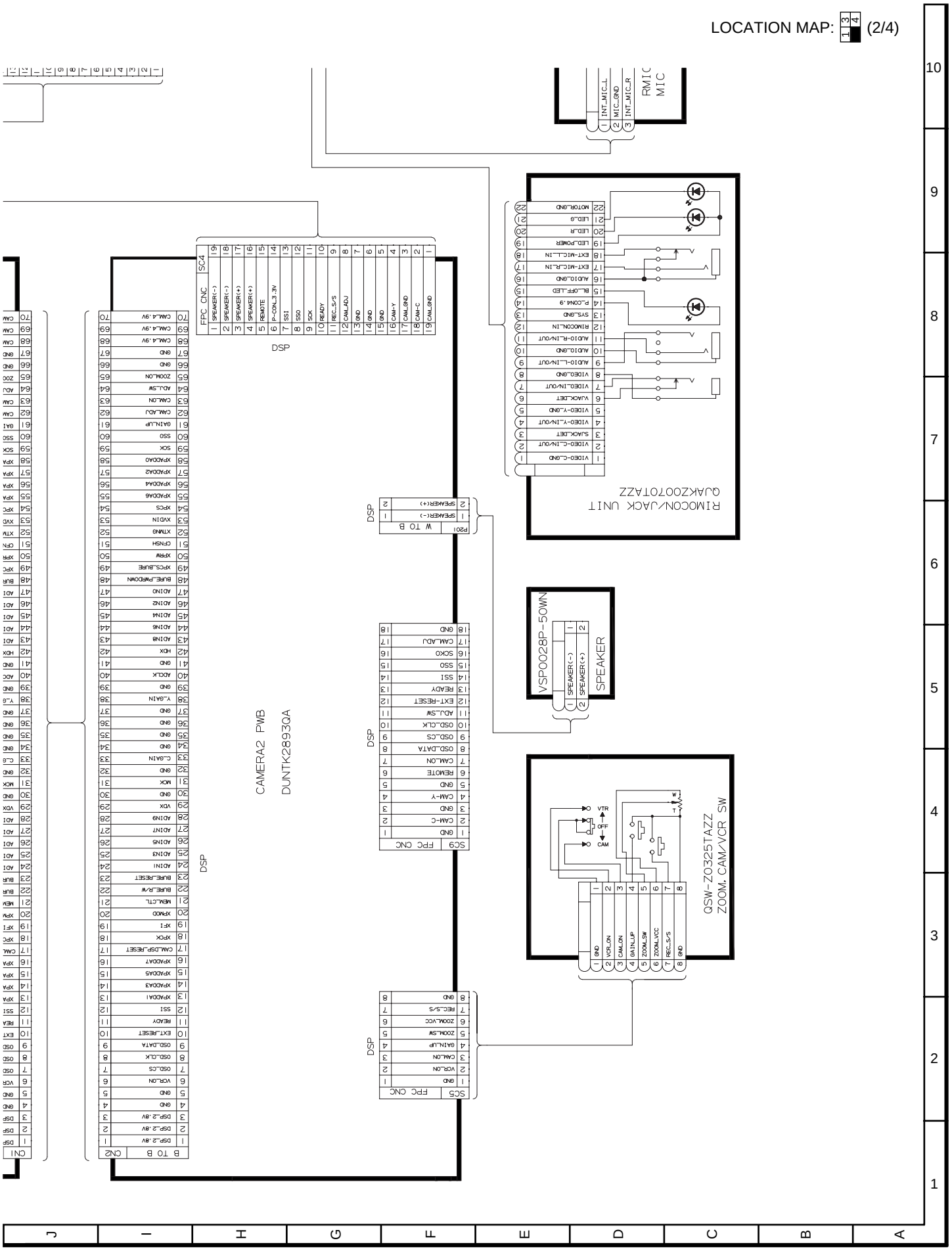
7-1. OVERALL SCHEMATIC DIAGRAM (VL-H870S/H890S/H96E/H960E)

LOCATION MAP: 3 / 2 4 (1/4)

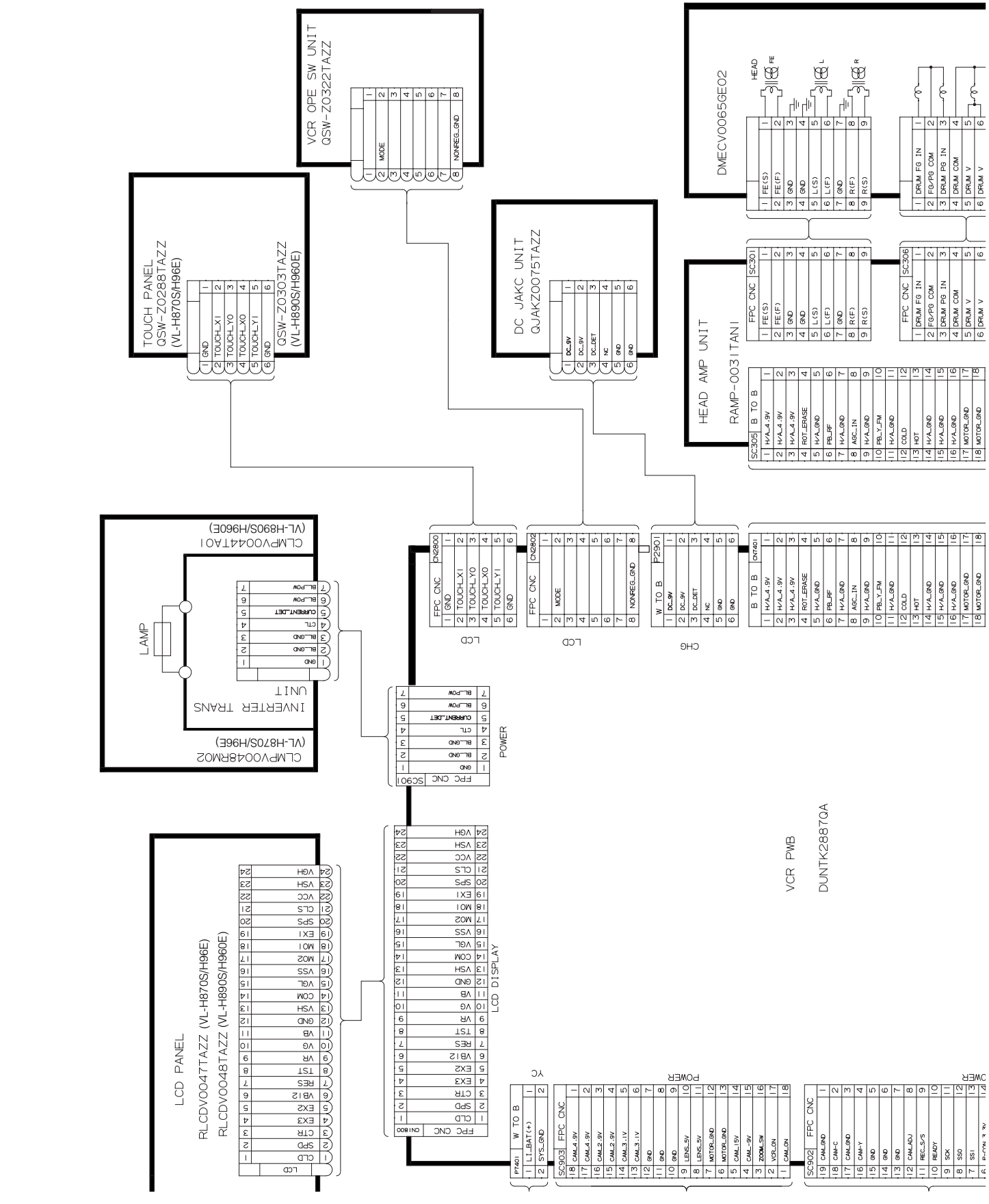


S R Q P O N M L K J

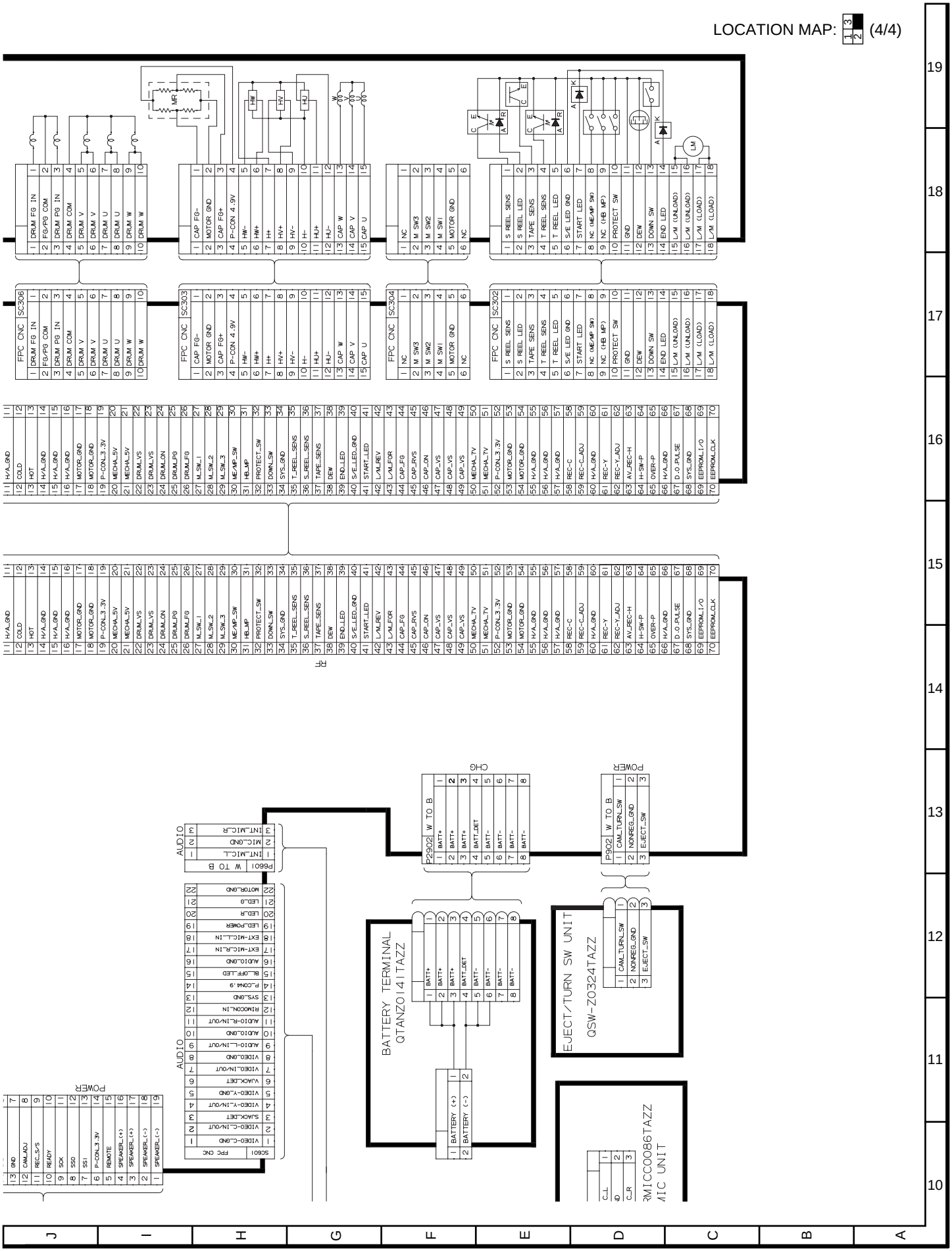
LOCATION MAP: 1 3 4 (2/4)



LOCATION MAP: 1 2 4 (3/4)

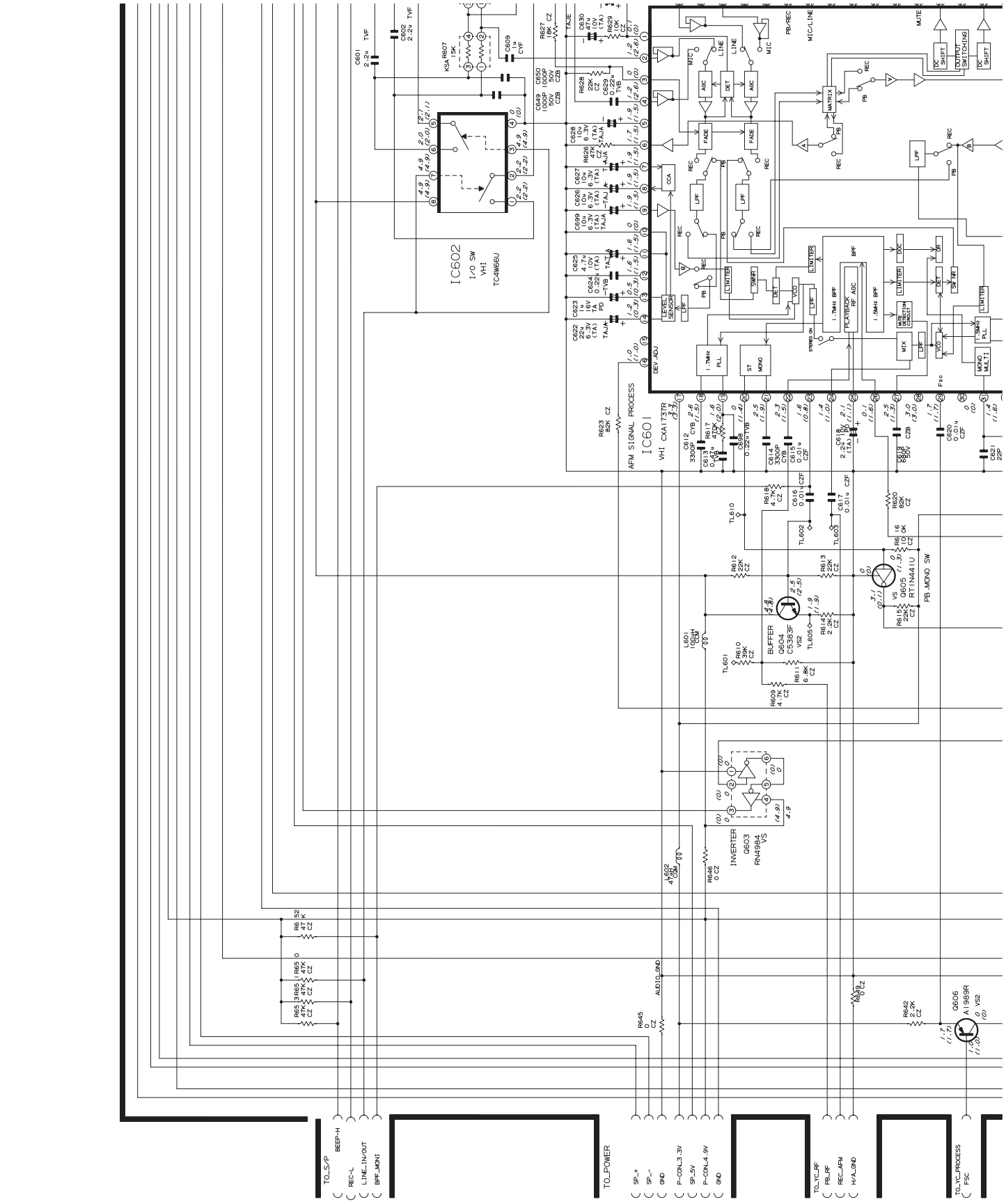


LOCATION MAP: 1 3 / 2 (4/4)

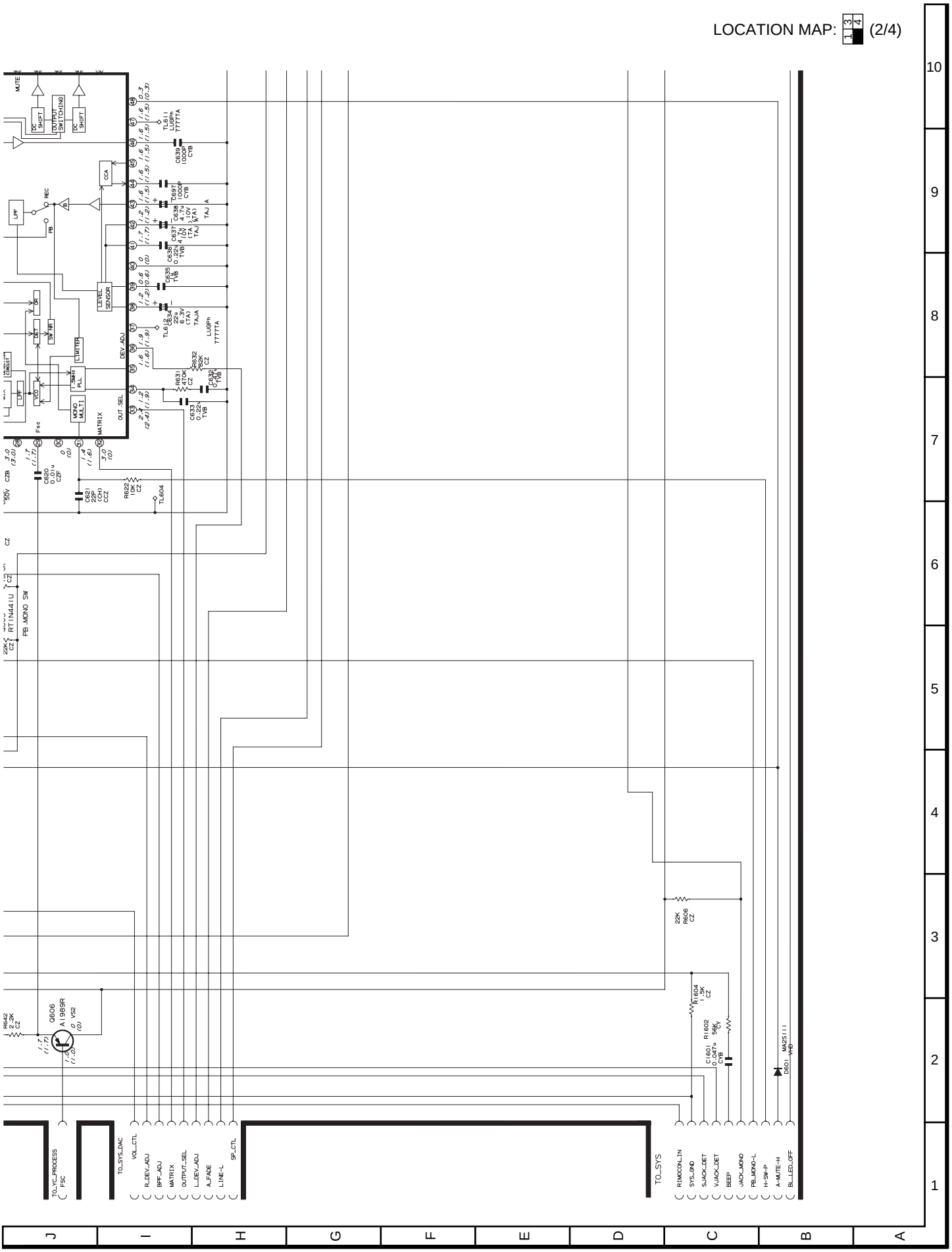


7-2. AUDIO CIRCUIT SCHEMATIC DIAGRAM

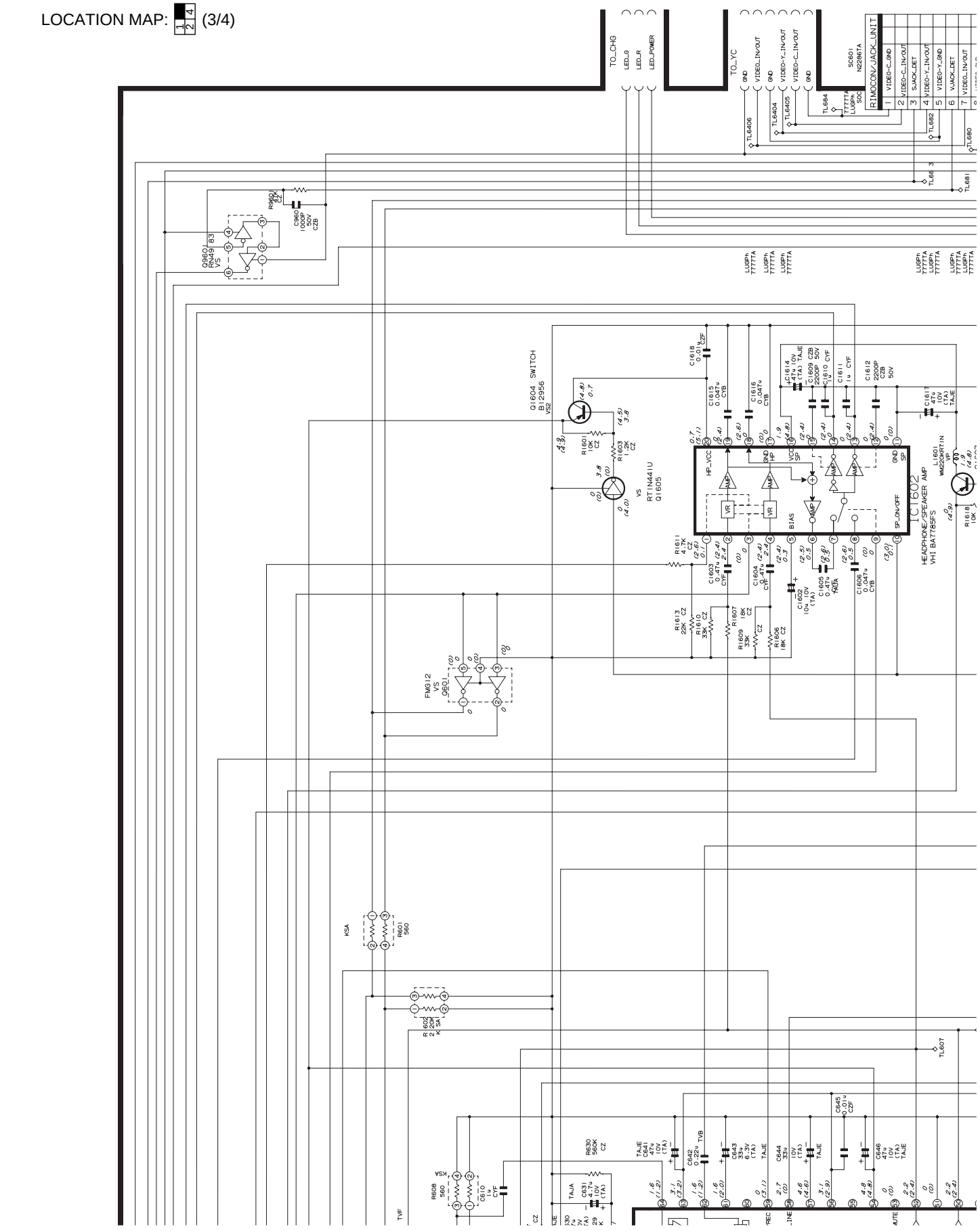
LOCATION MAP: 3 / 2 4 (1/4)



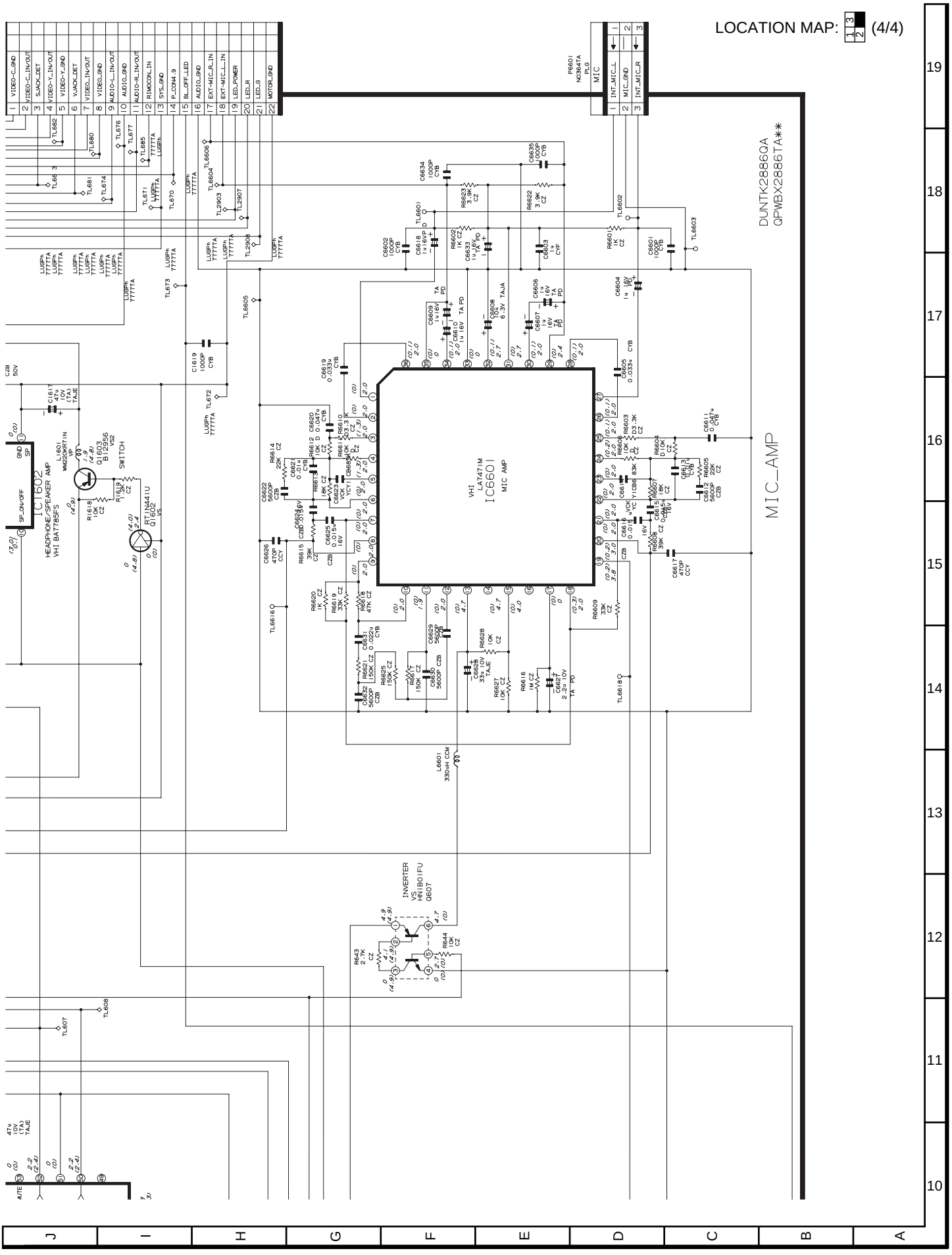
LOCATION MAP: 1 3 4 (2/4)



LOCATION MAP: 1 2 4 (3/4)

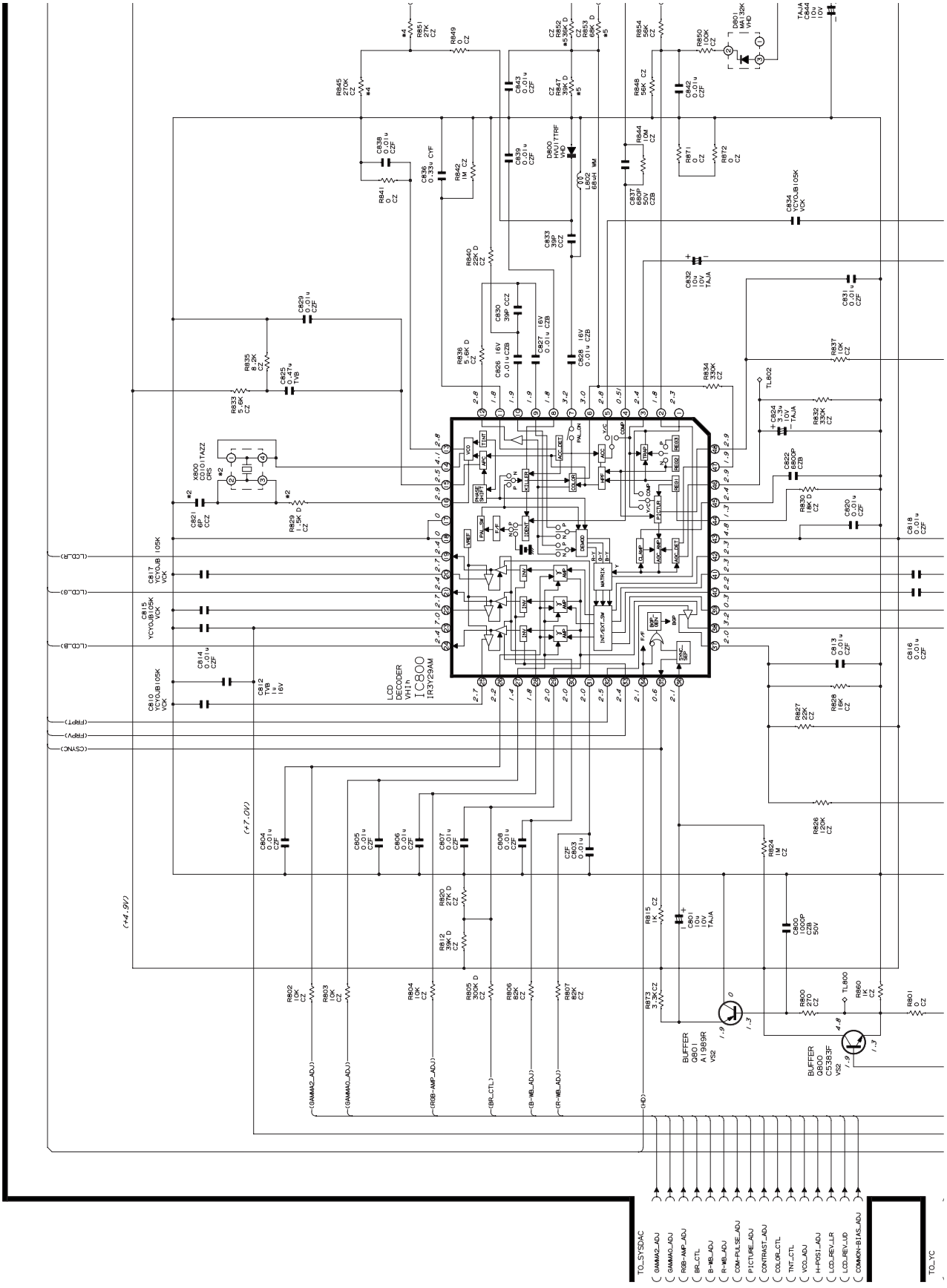


LOCATION MAP: 1 3 / 2 (4/4)



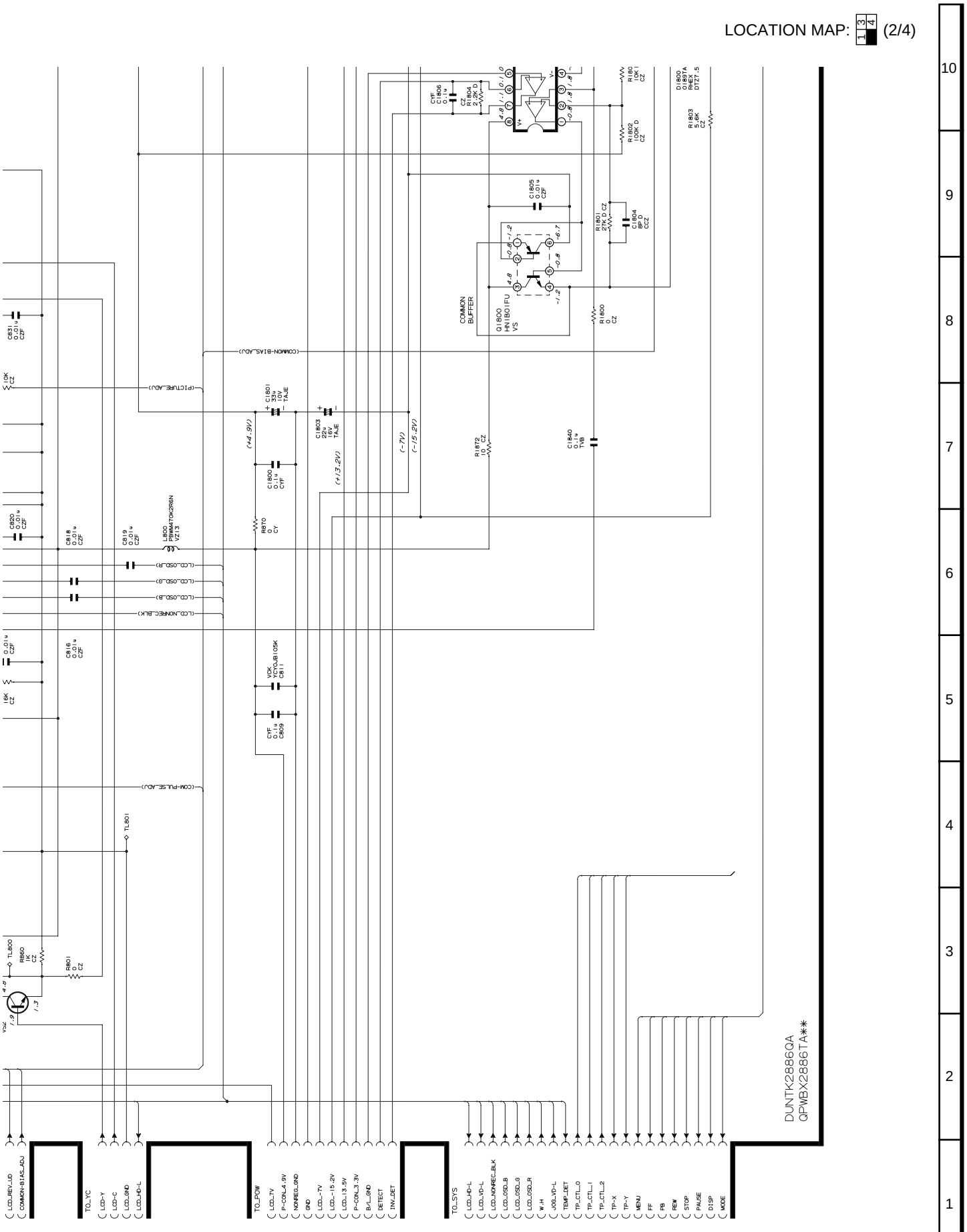
7-3. LCD CIRCUIT SCHEMATIC DIAGRAM (VL-H860S/H/H94E)

LOCATION MAP: 3 / 2 4 (1/4)

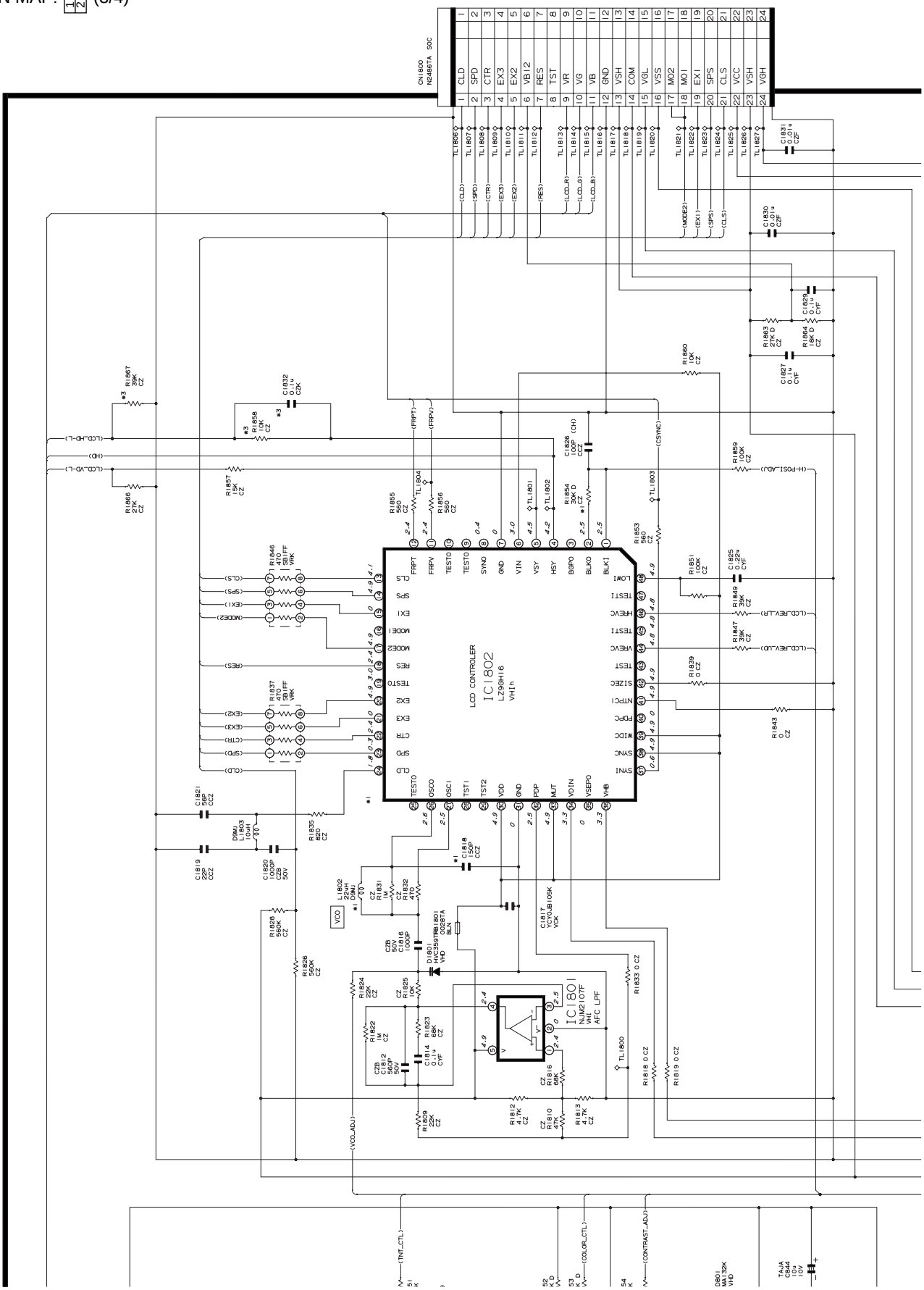


S	R	Q	P	O	N	M	L	K	J

LOCATION MAP: 1 3 4 (2/4)

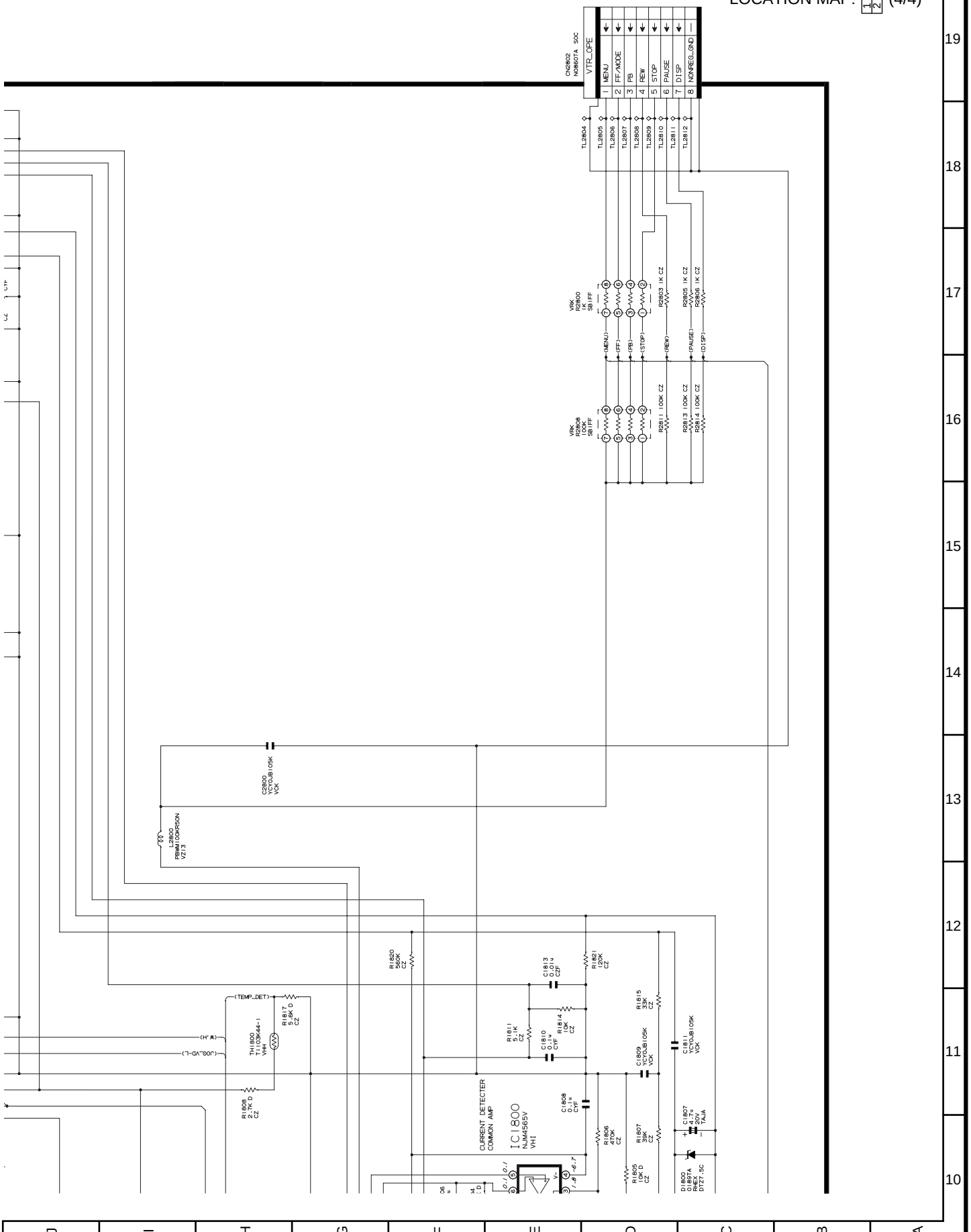


LOCATION MAP: 1 3 / 2 4 (3/4)



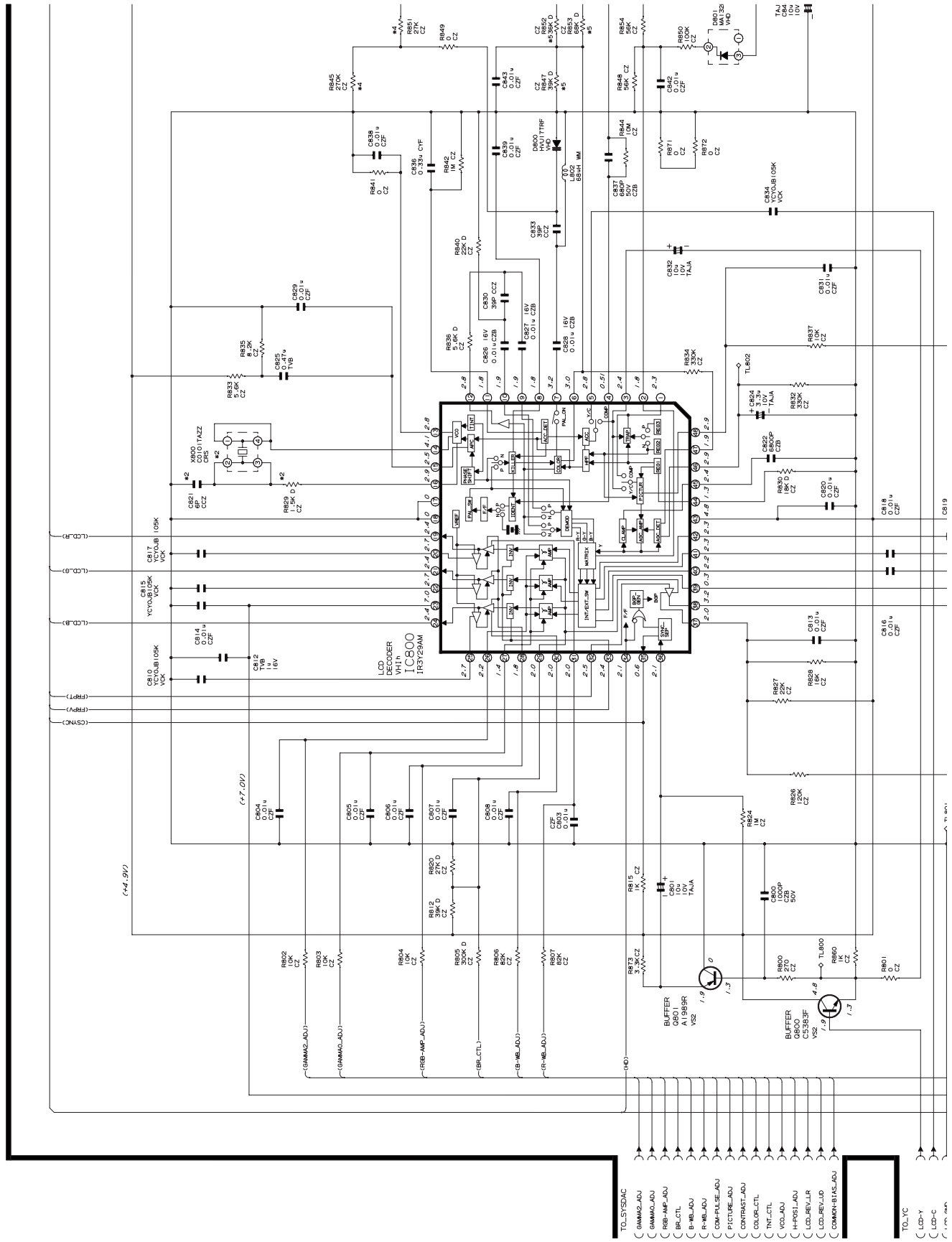
S	R	Q	P	O	N	M	L	K	J

LOCATION MAP: 1 3 / 2 (4/4)

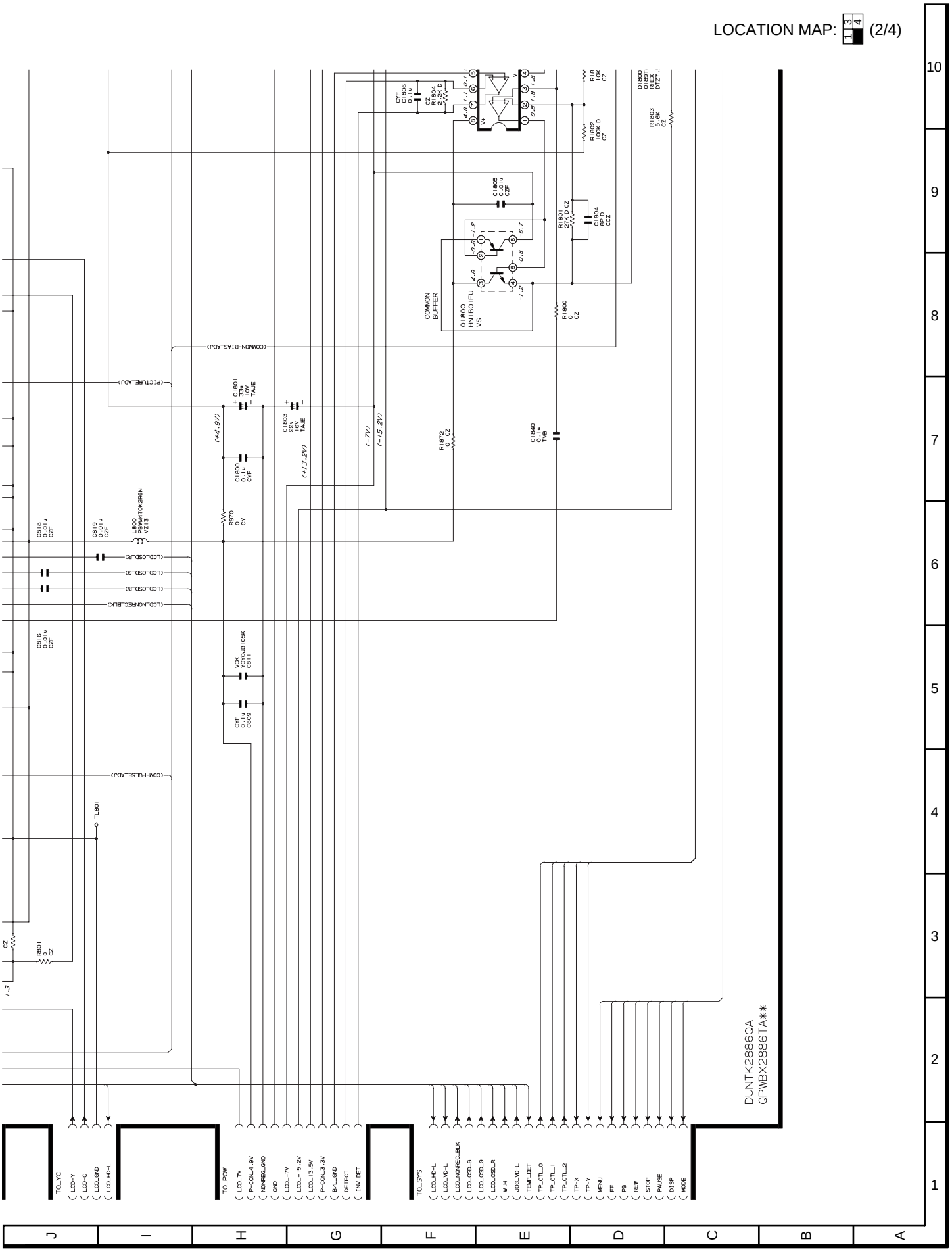


7-3. LCD CIRCUIT SCHEMATIC DIAGRAM (VL-H870S/H96E)

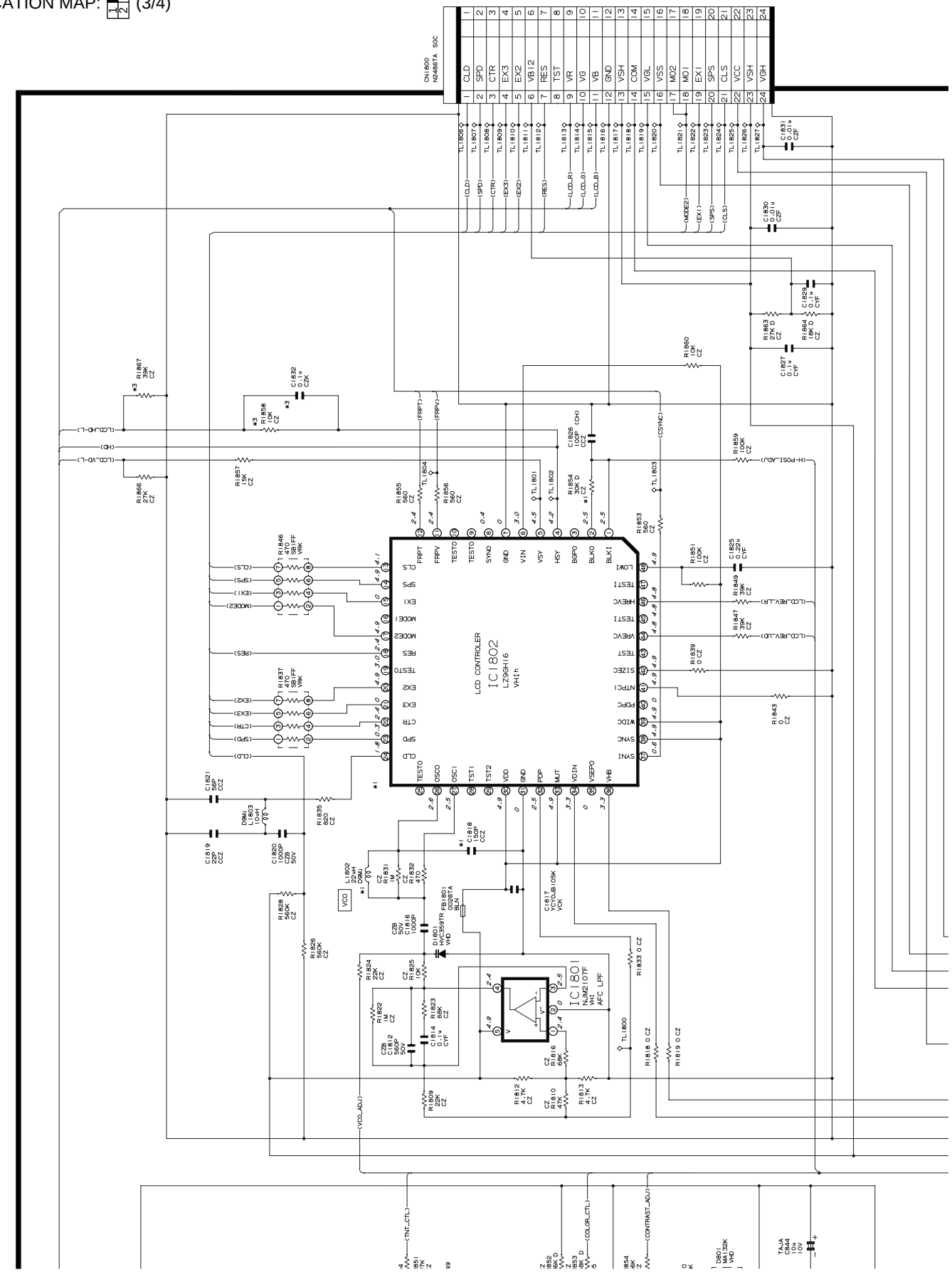
LOCATION MAP: 3 / 2 4 (1/4)



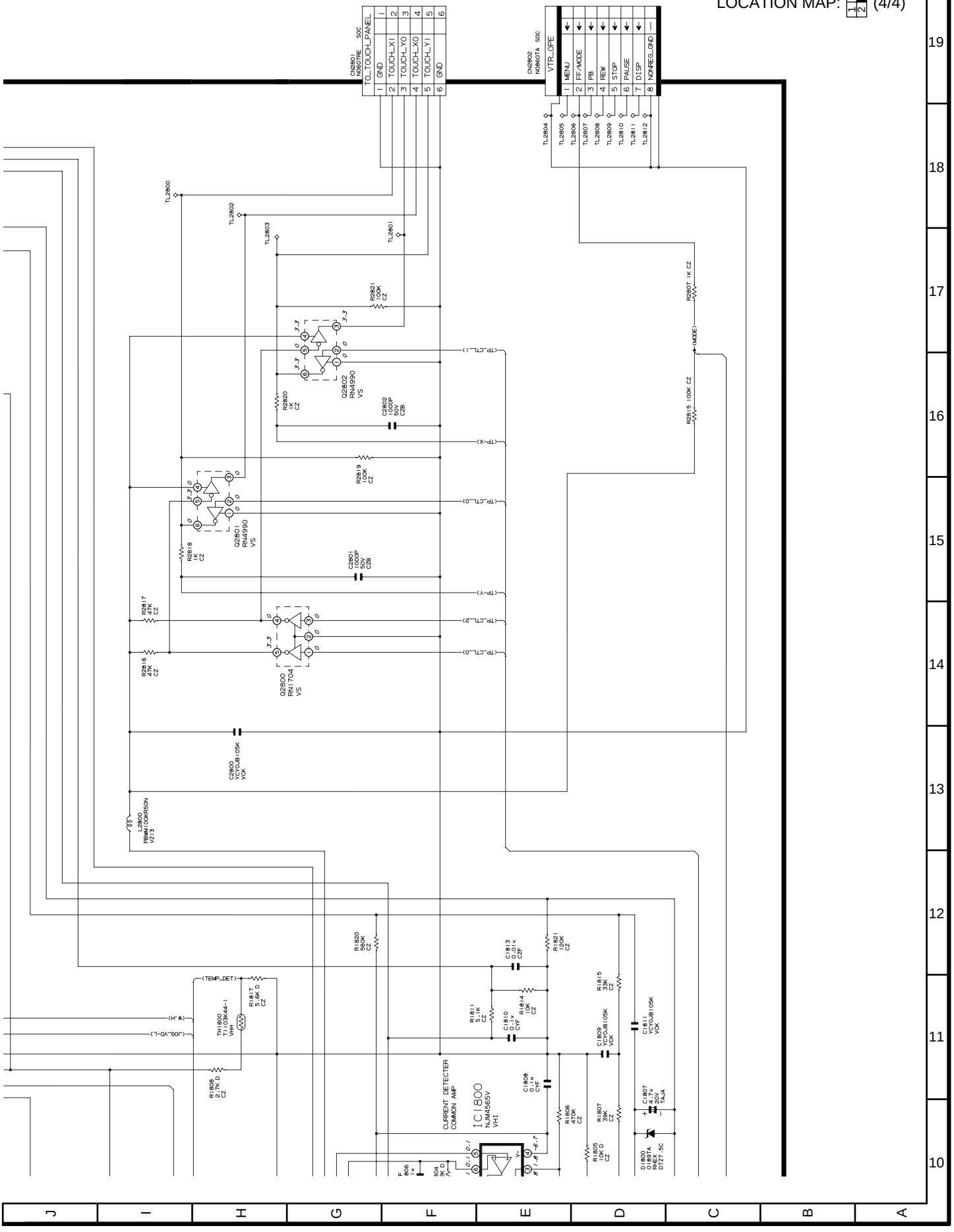
LOCATION MAP: 1 3 4 (2/4)



LOCATION MAP: 1 3 / 2 4 (3/4)

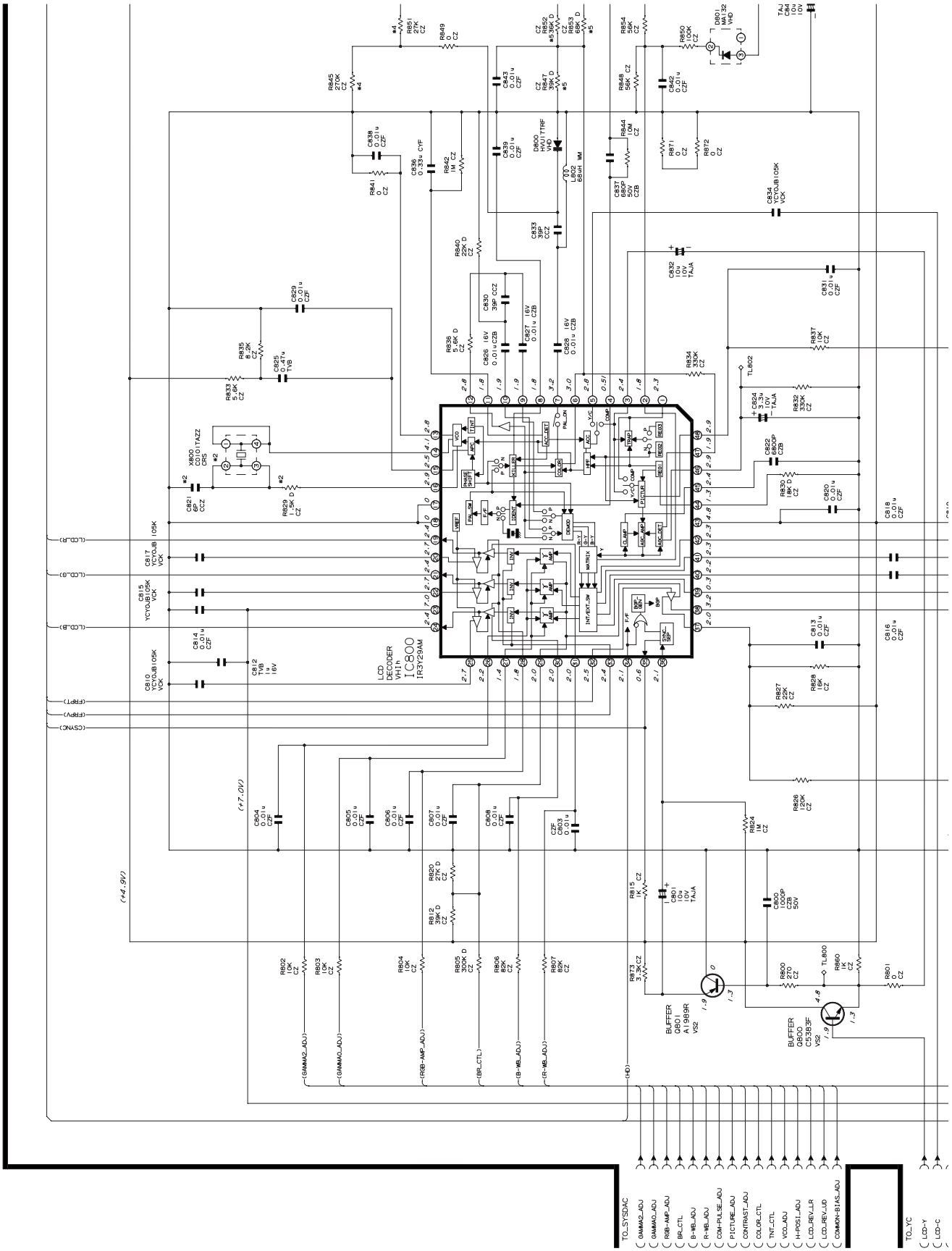


LOCATION MAP: 1 3 / 2 (4/4)

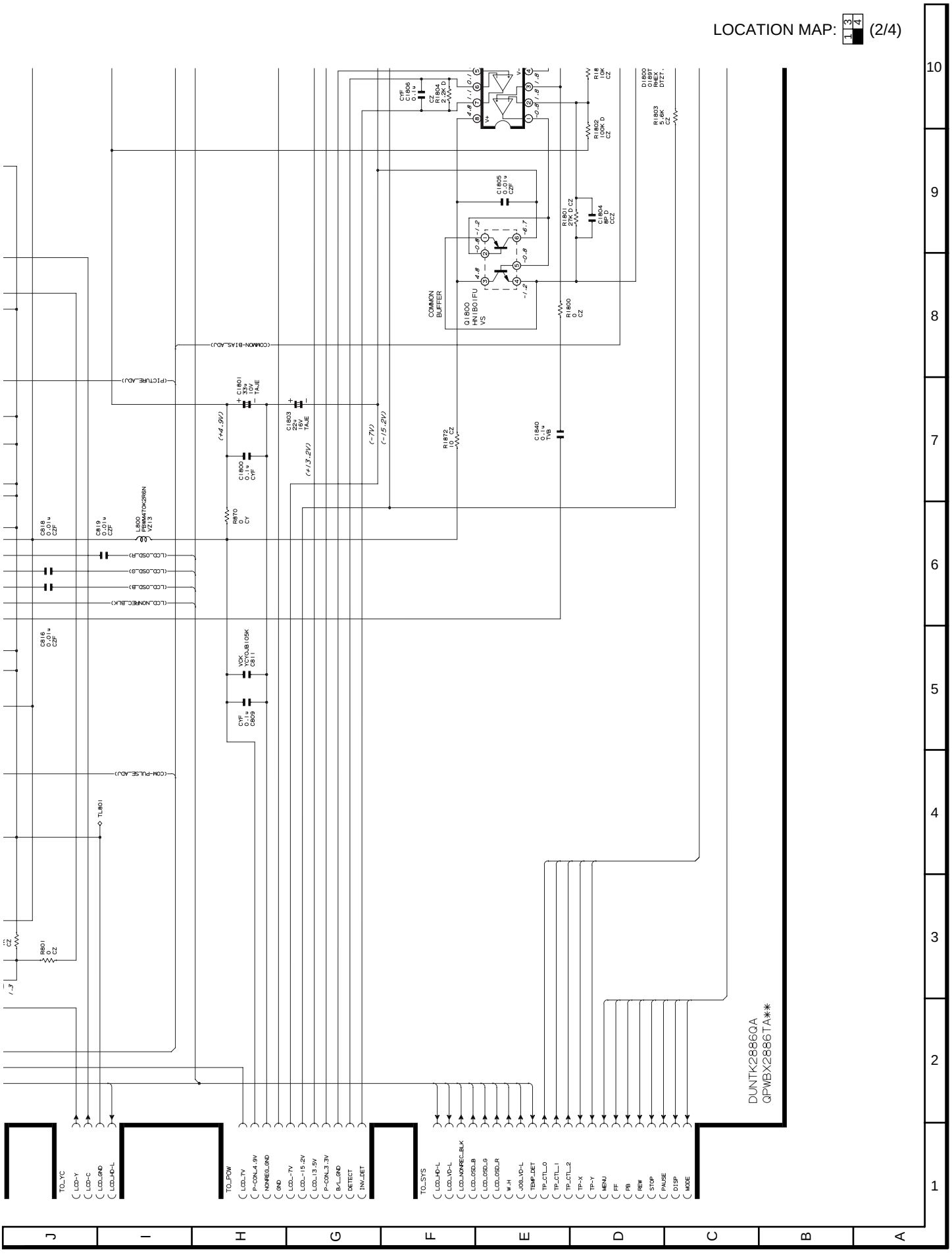


7-3. LCD CIRCUIT SCHEMATIC DIAGRAM (VL-H890S/H960E)

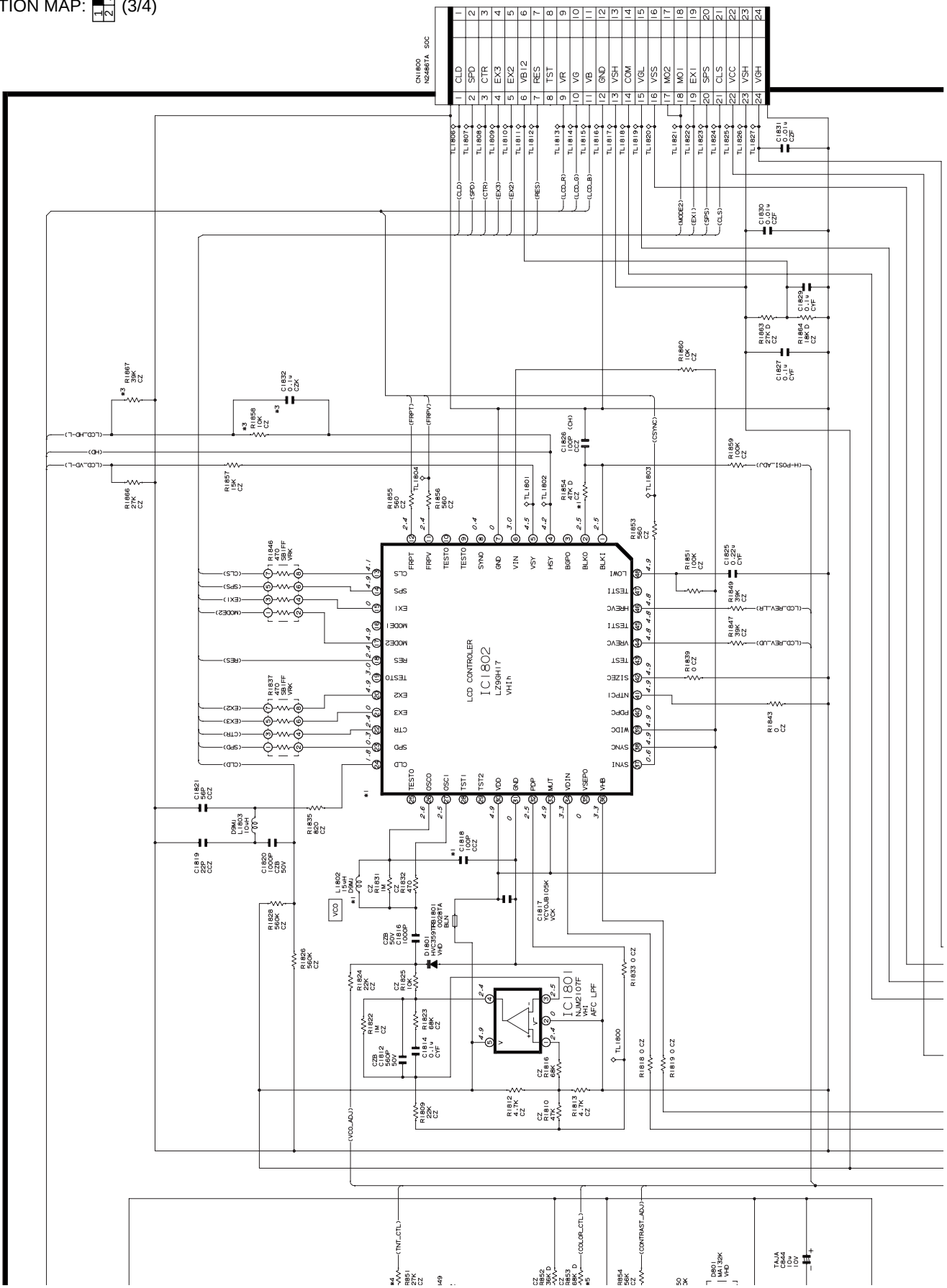
LOCATION MAP: 3 / 2 4 (1/4)



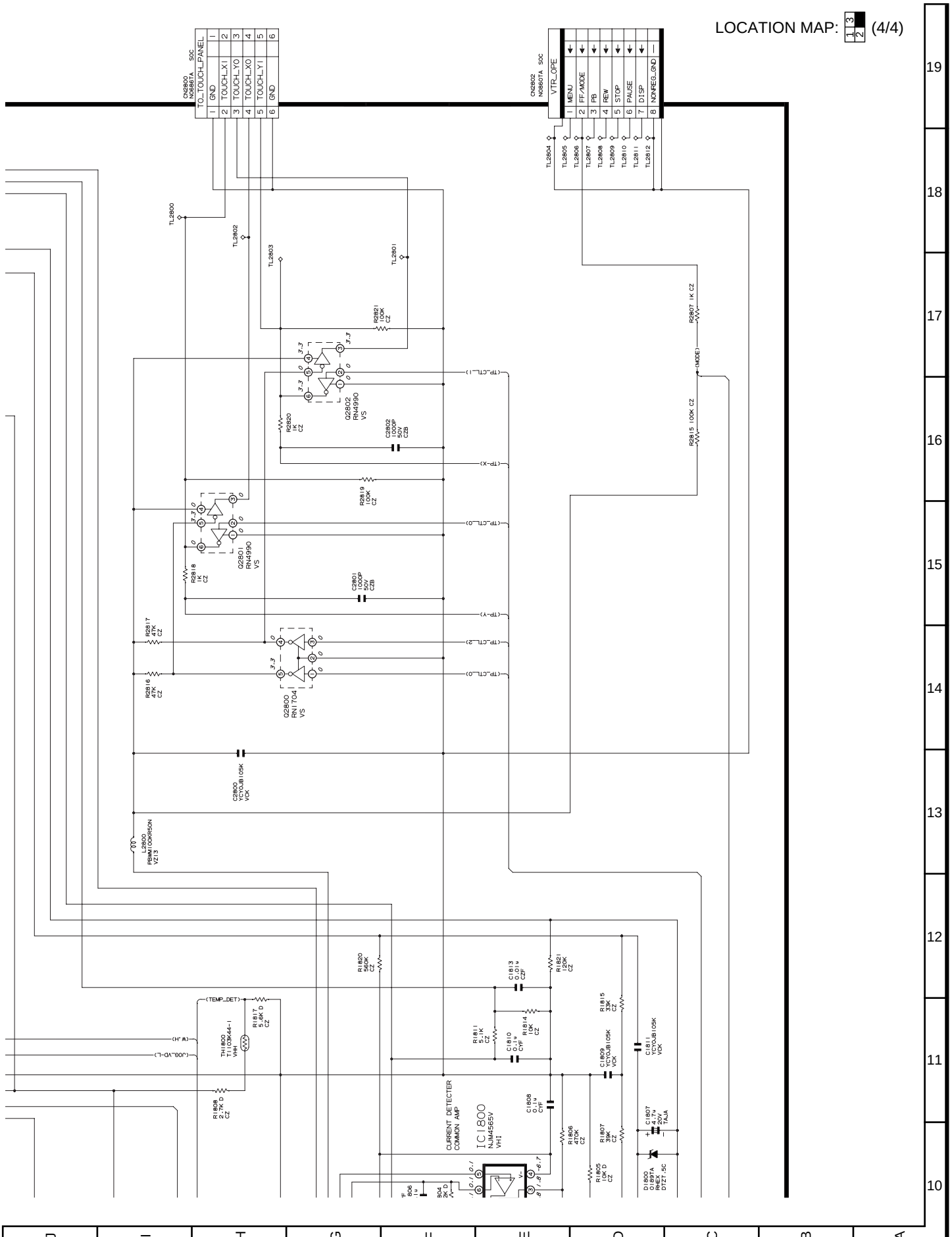
LOCATION MAP: 1 3 4 (2/4)



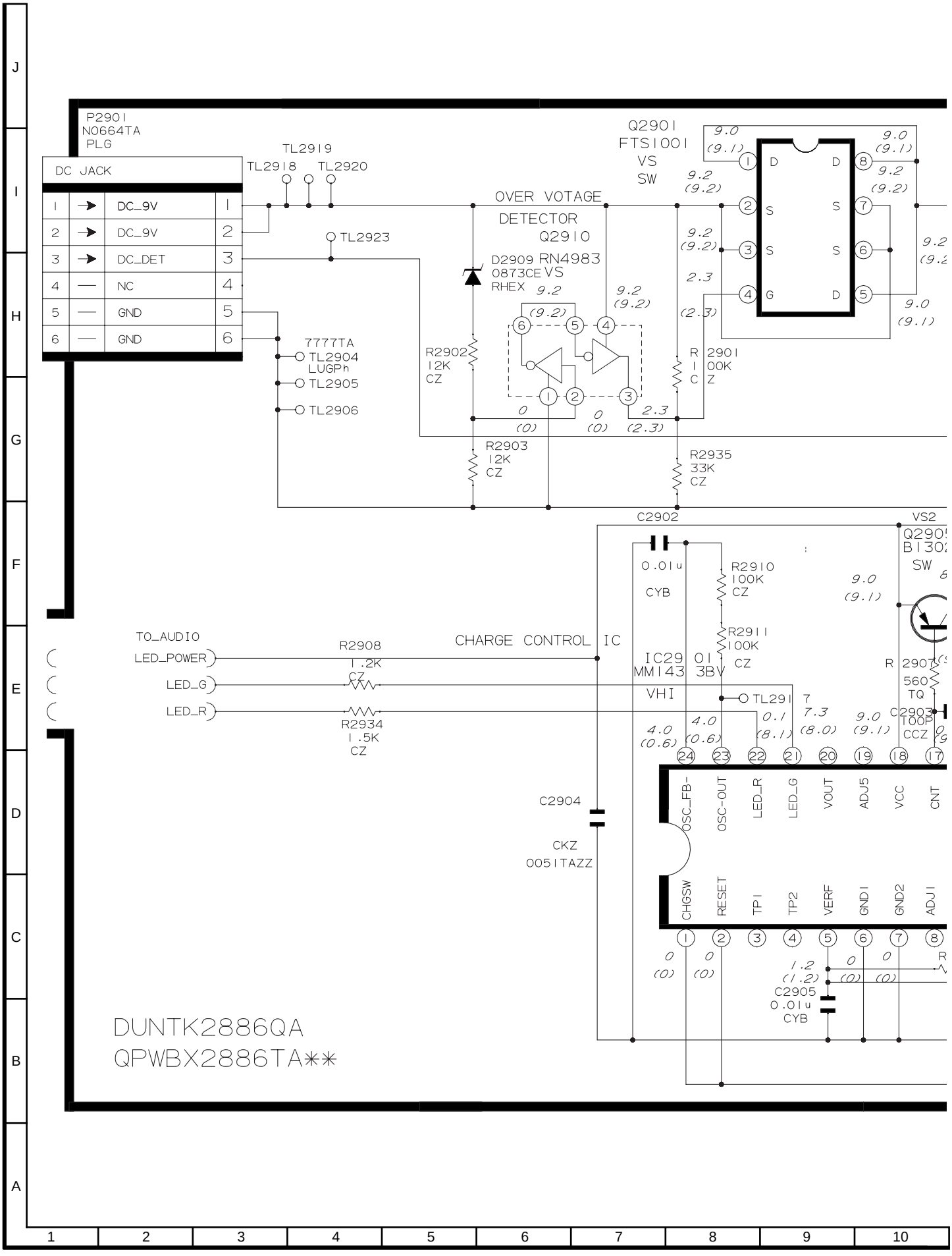
LOCATION MAP: 1 2 4 (3/4)



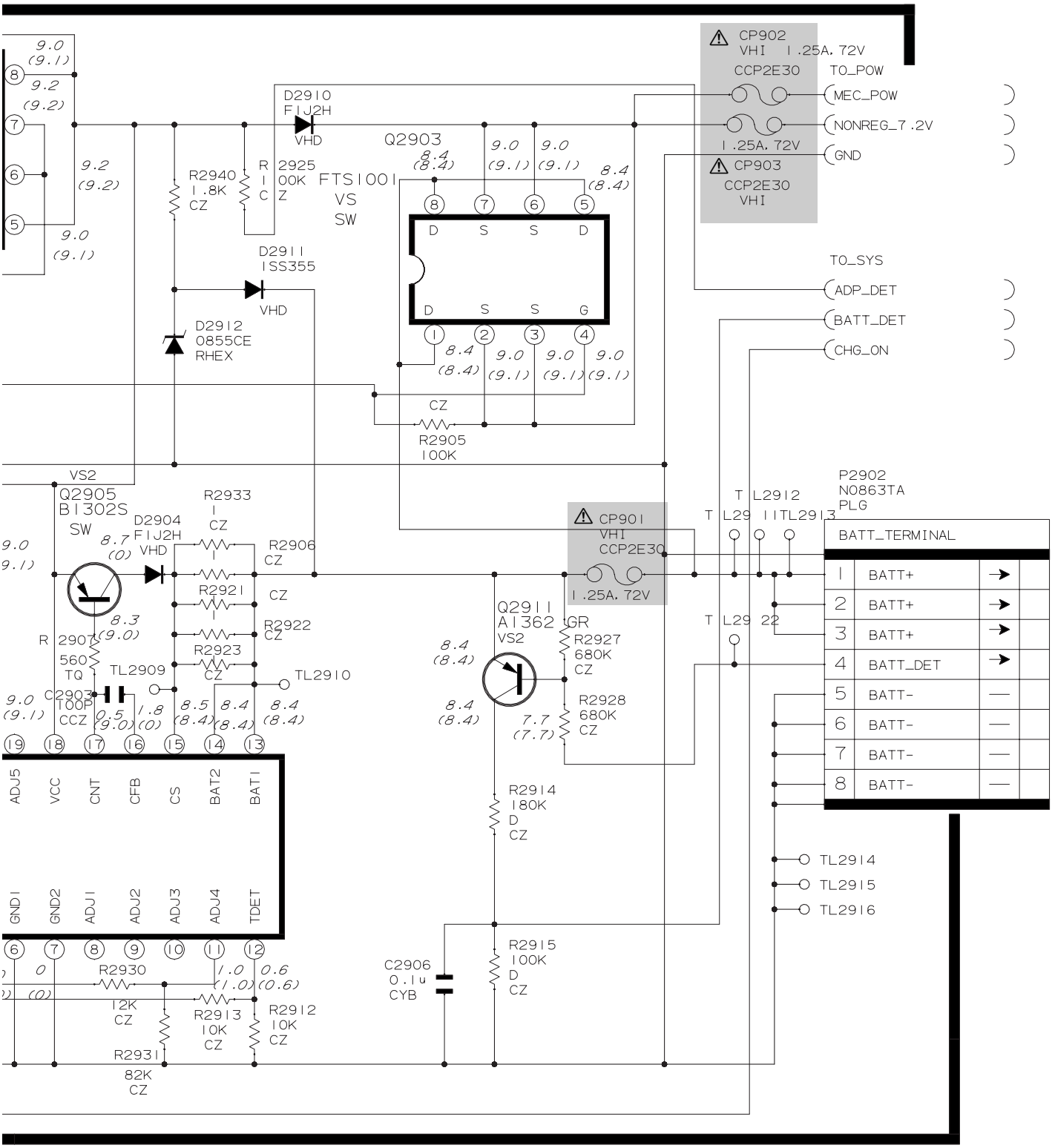
LOCATION MAP: 1 3 2 (4/4)



7-4. CHARGE CIRCUIT SCHEMATIC DIAGRAM



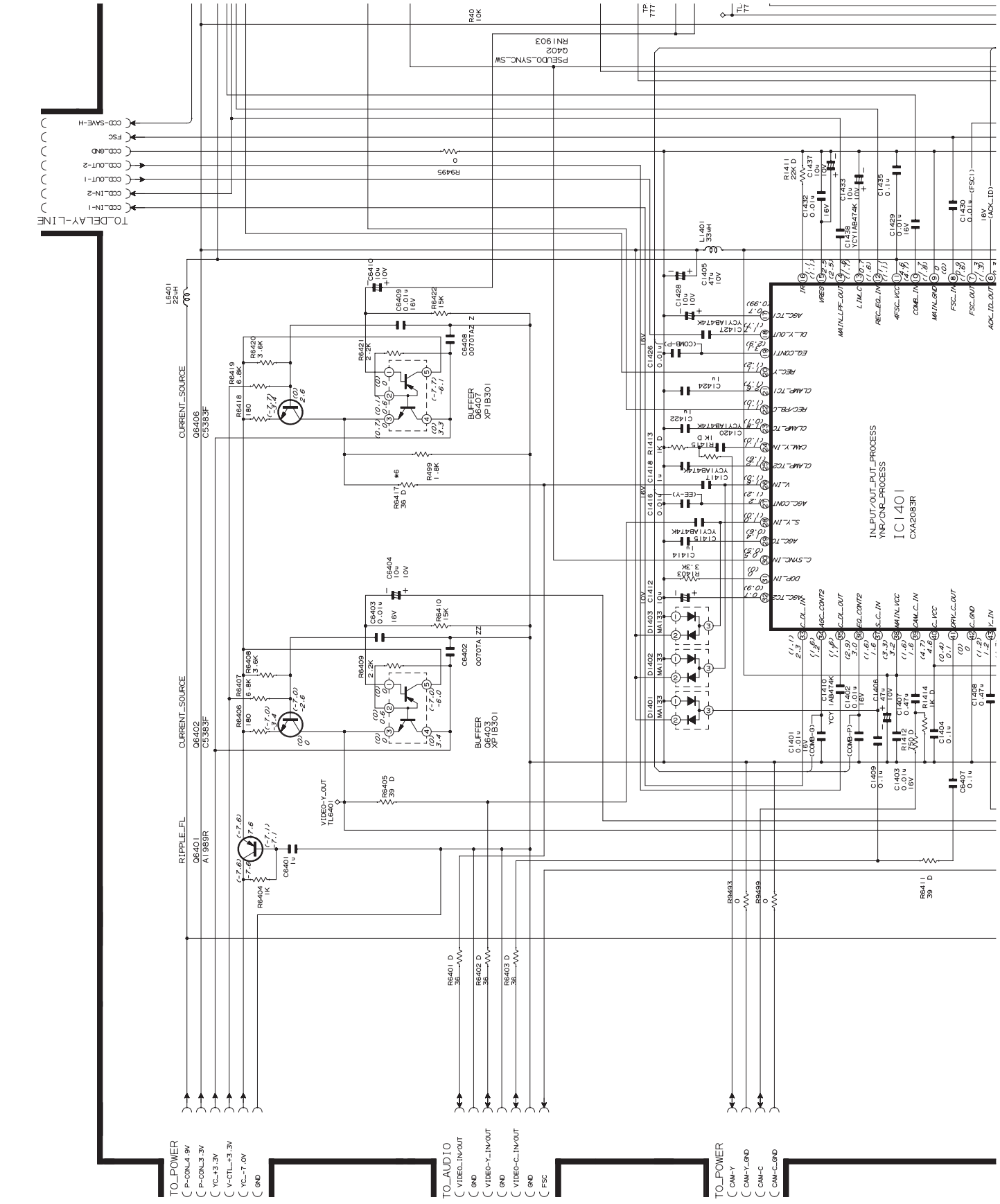
⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS



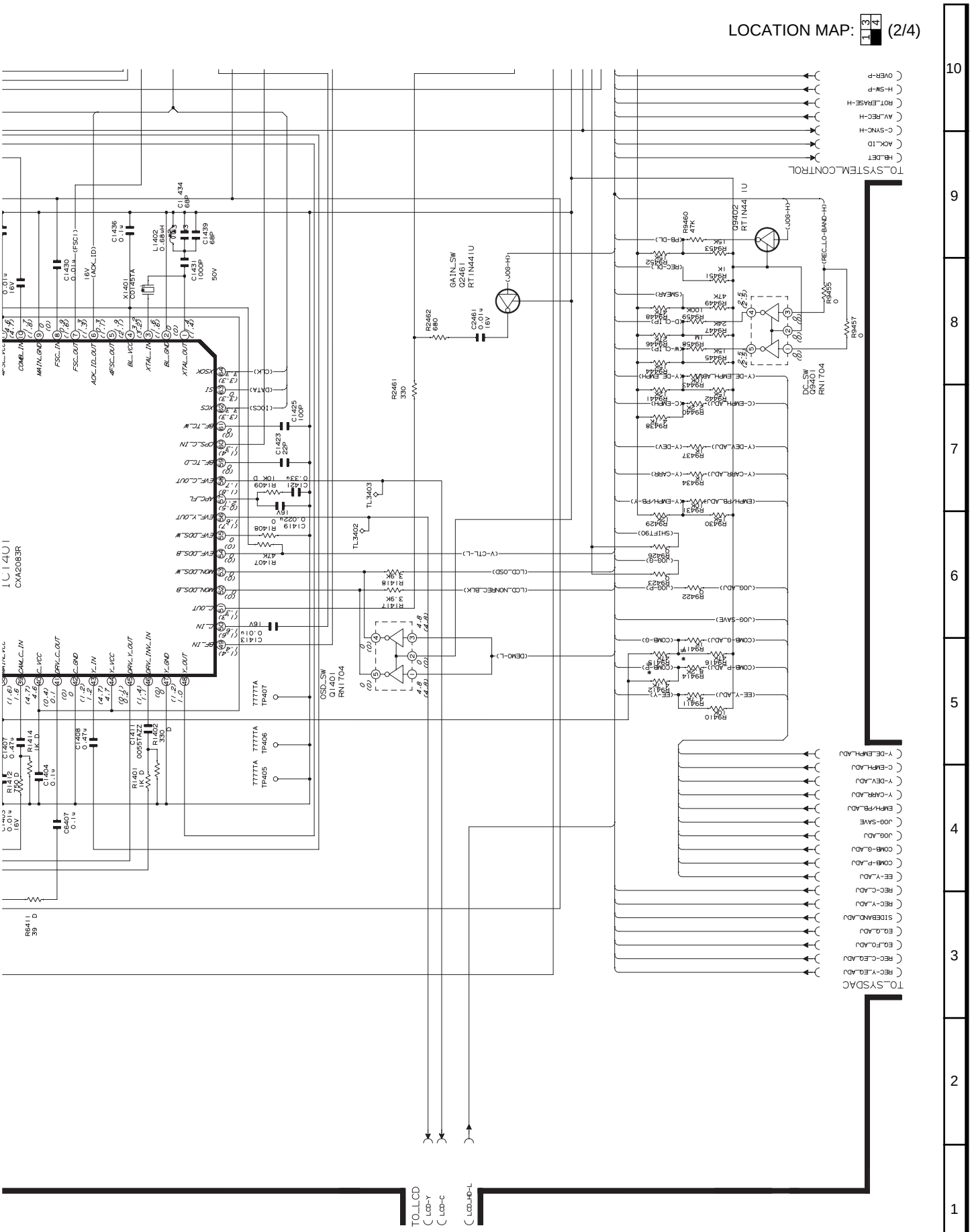
10	11	12	13	14	15	16	17	18	19

7-5. YCPROCESS CIRCUIT SCHEMATIC DIAGRAM

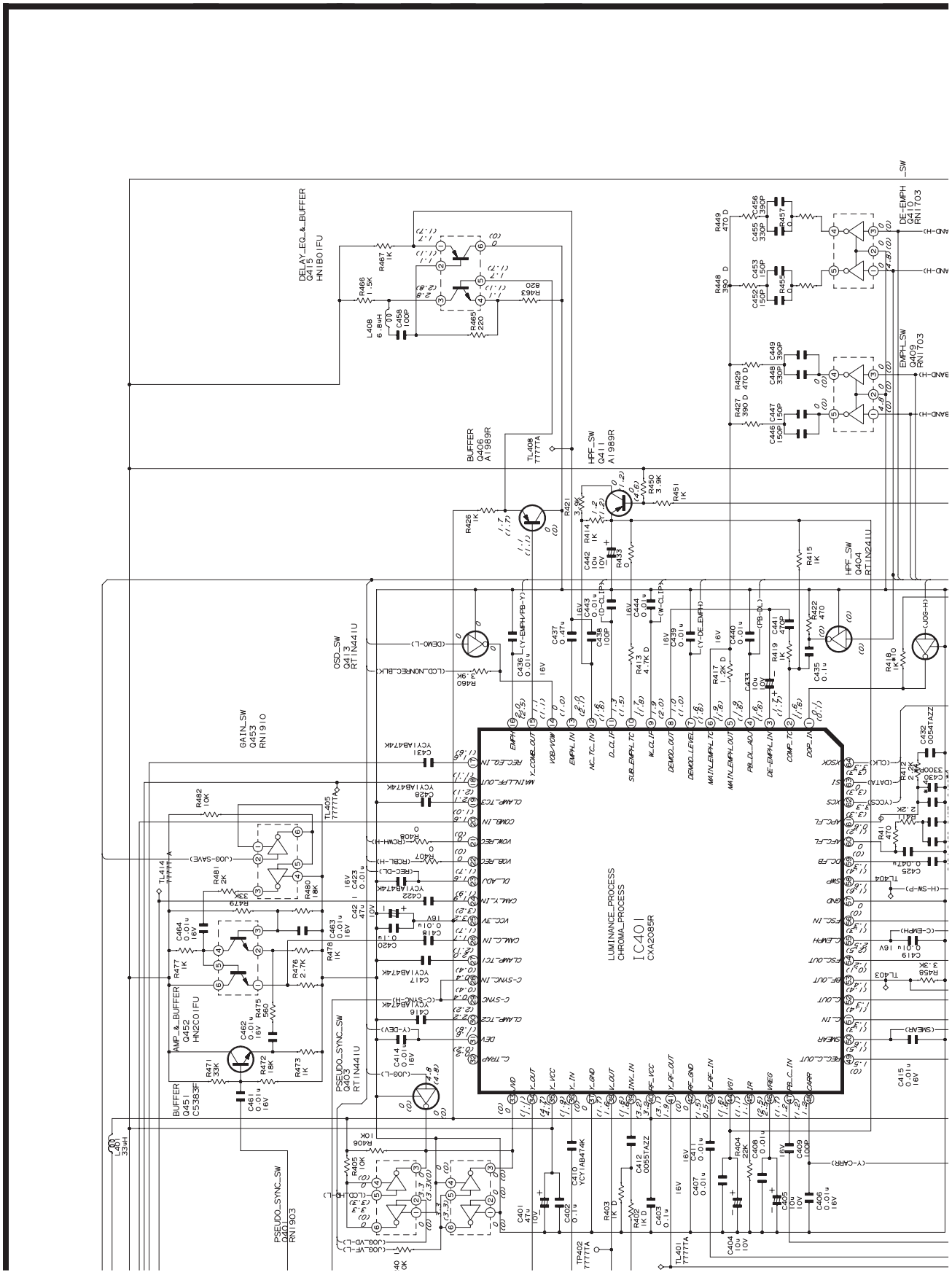
LOCATION MAP: 3 / 2 4 (1/4)



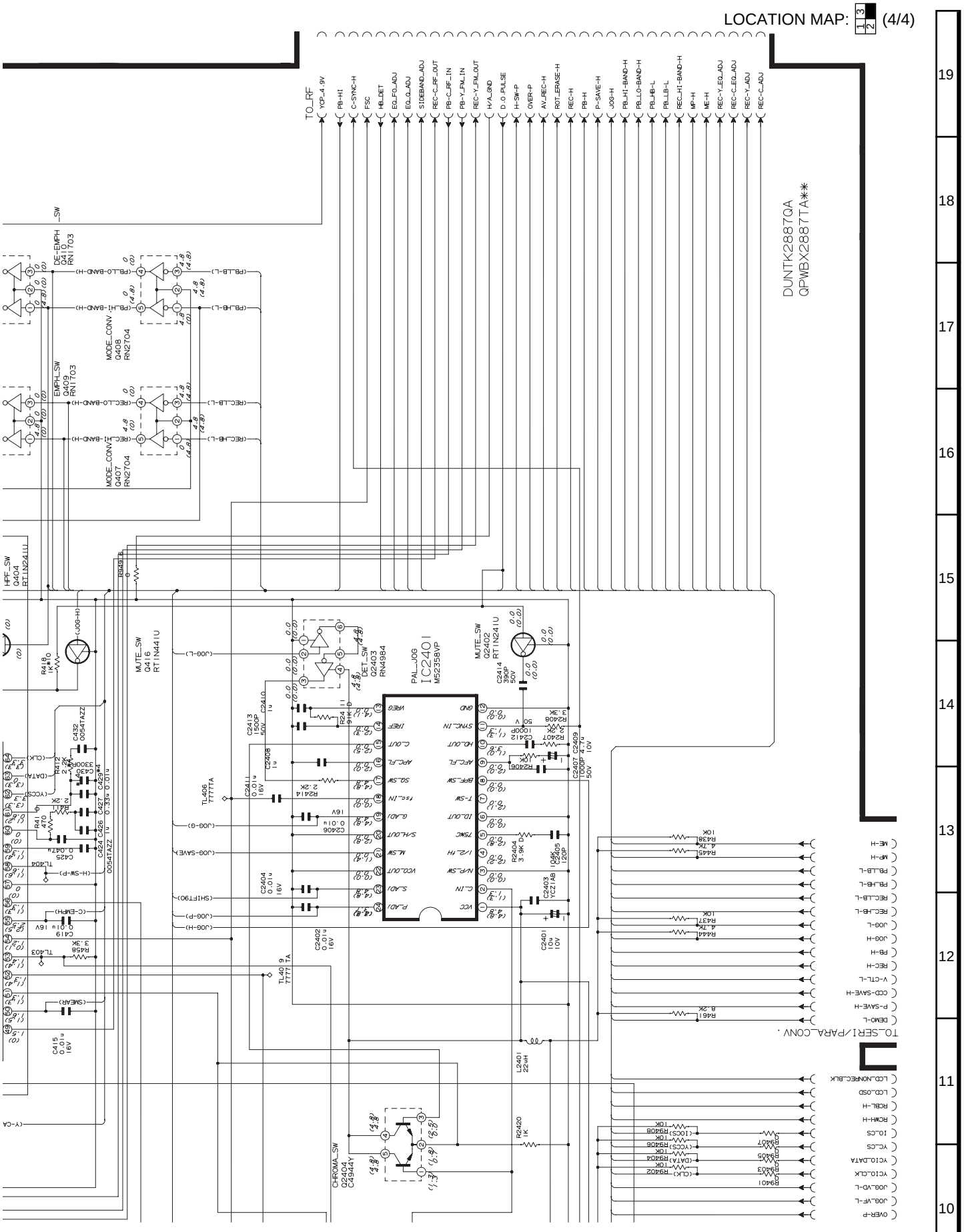
LOCATION MAP: 1 3 4 (2/4)



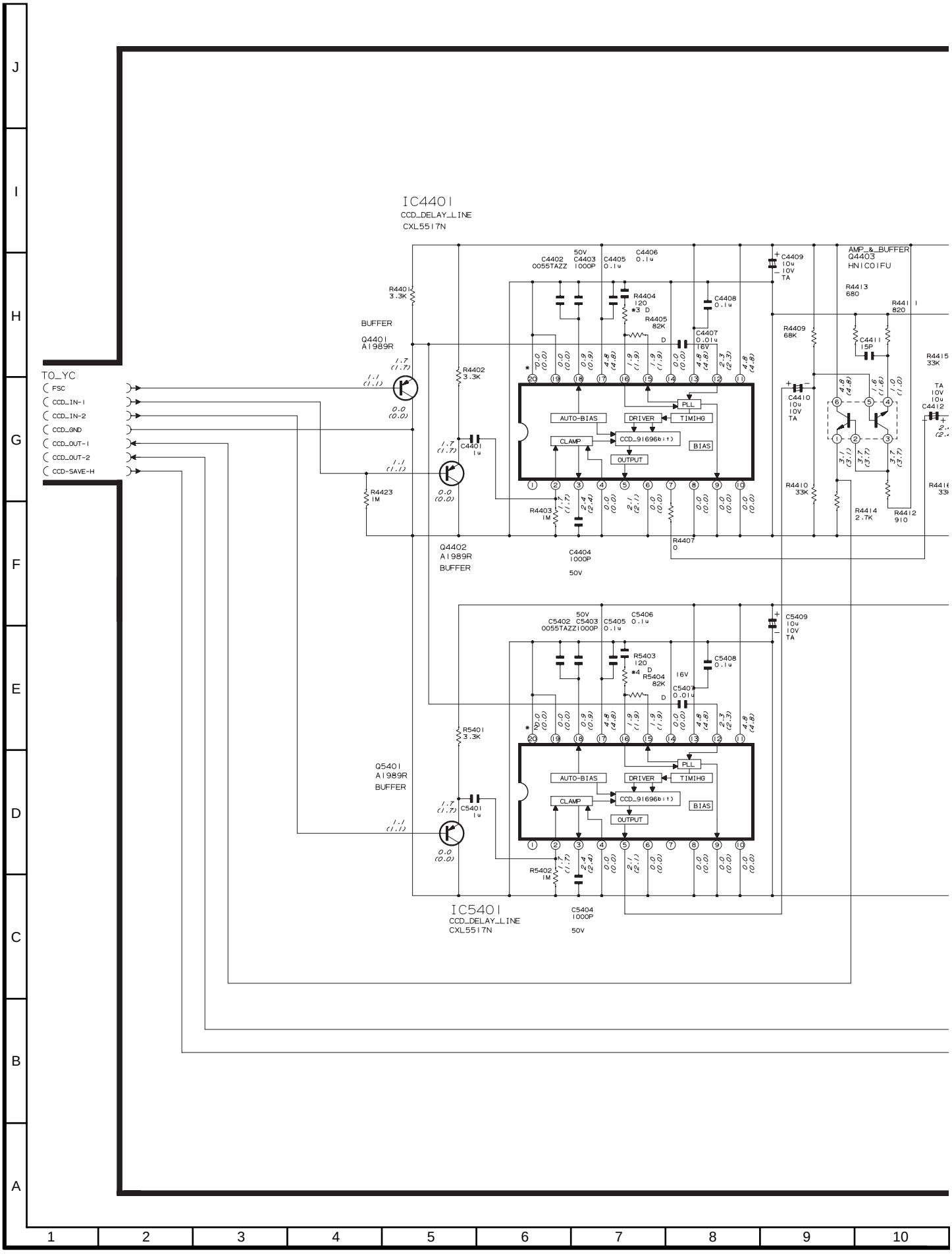
LOCATION MAP: 1 2 4 (3/4)

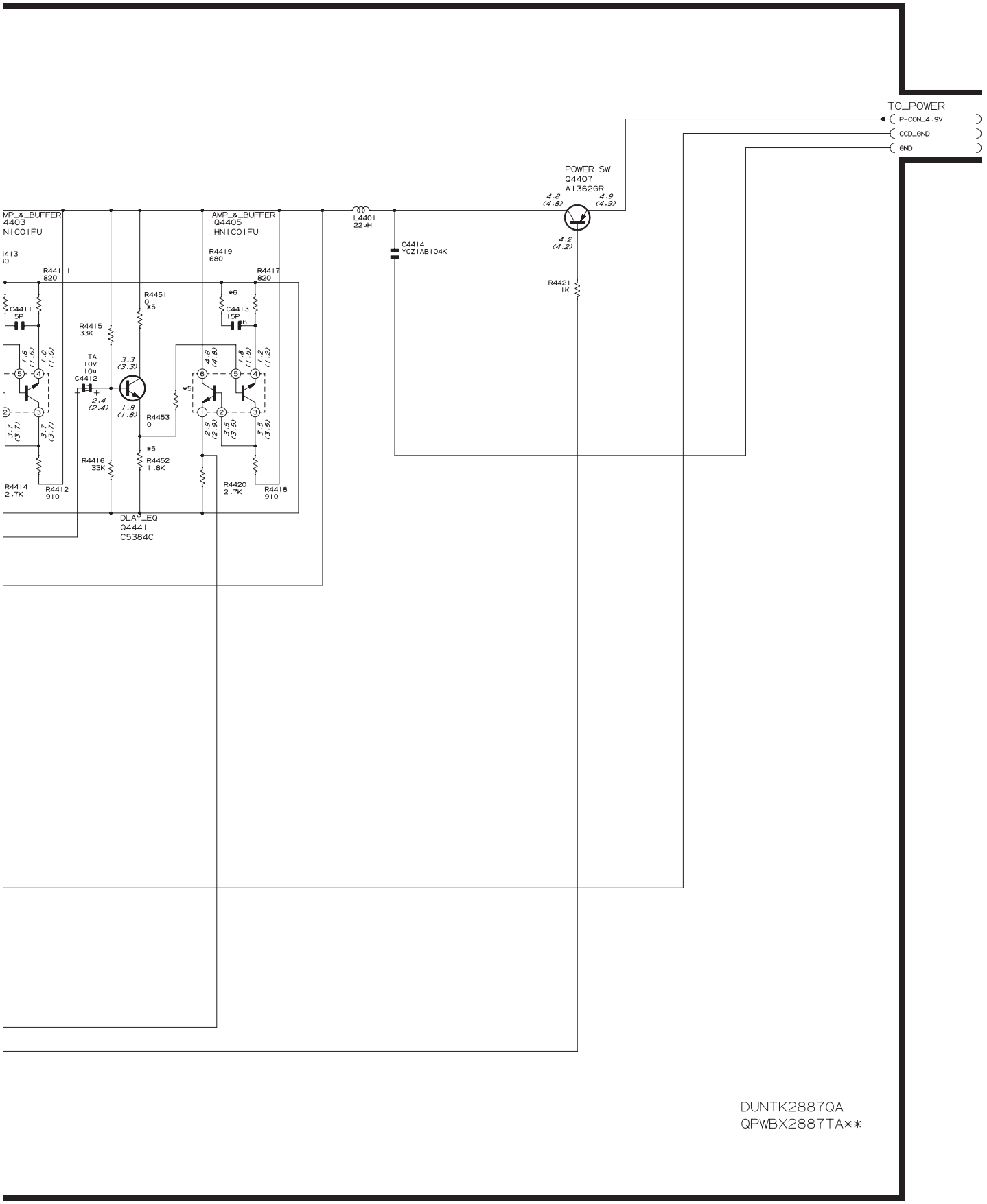


LOCATION MAP: 1 3 / 2 (4/4)



7-6. YCCCD DELAY CIRCUIT SCHEMATIC DIAGRAM

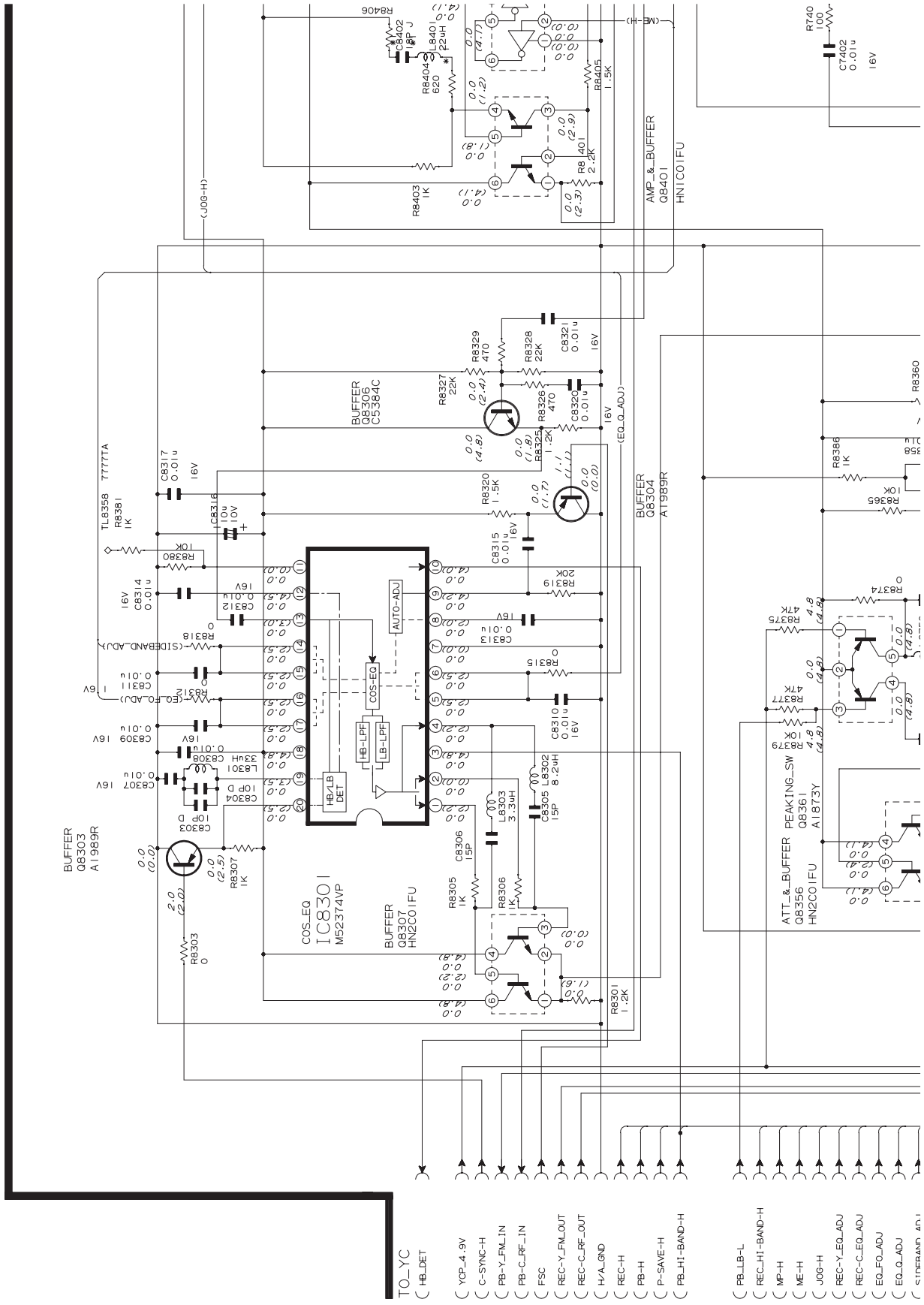




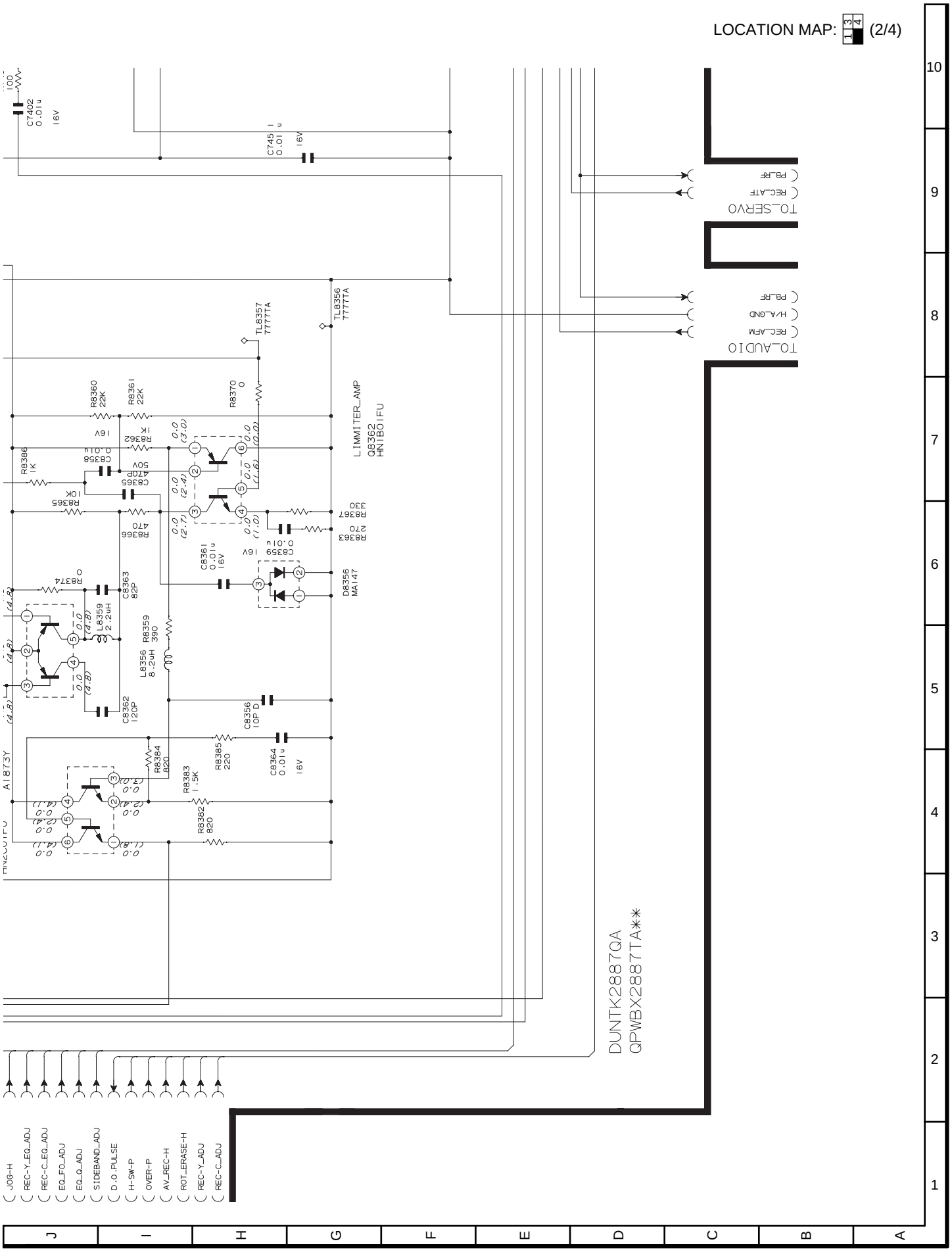
10	11	12	13	14	15	16	17	18	19

7-7. YCRF CIRCUIT SCHEMATIC DIAGRAM

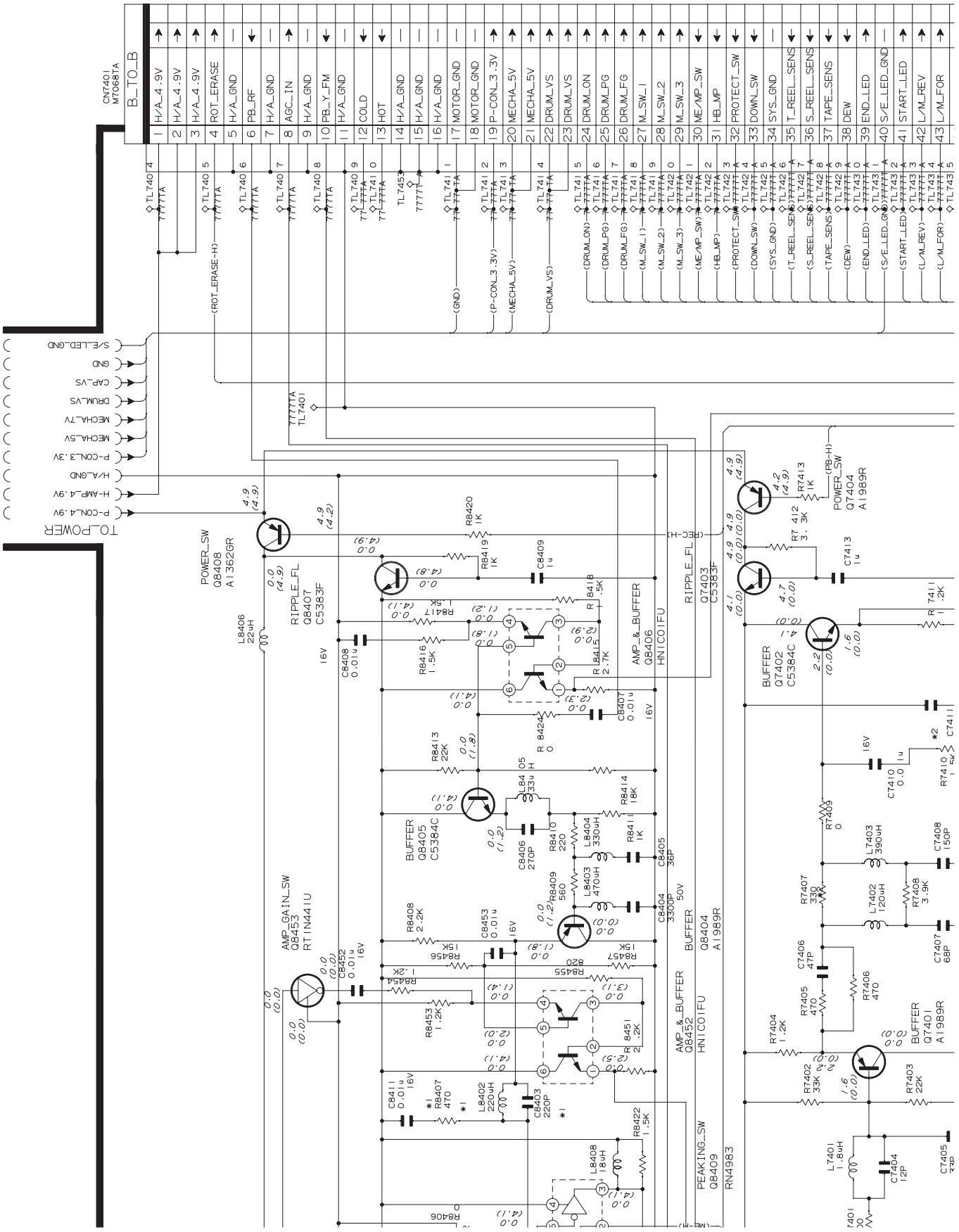
LOCATION MAP: 3 / 2 4 (1/4)



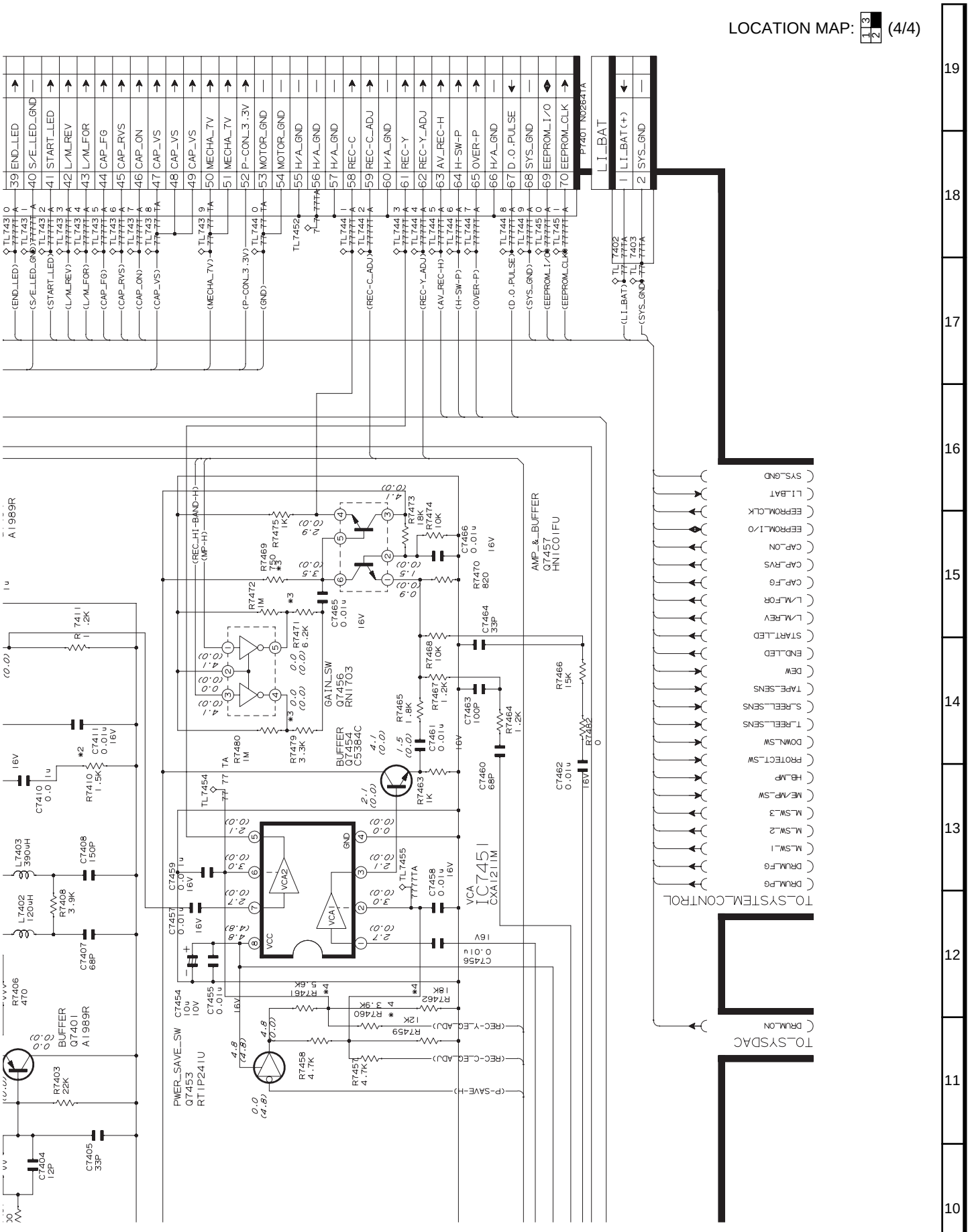
LOCATION MAP: 1 3 4 (2/4)



LOCATION MAP: 1 3 2 4 (3/4)



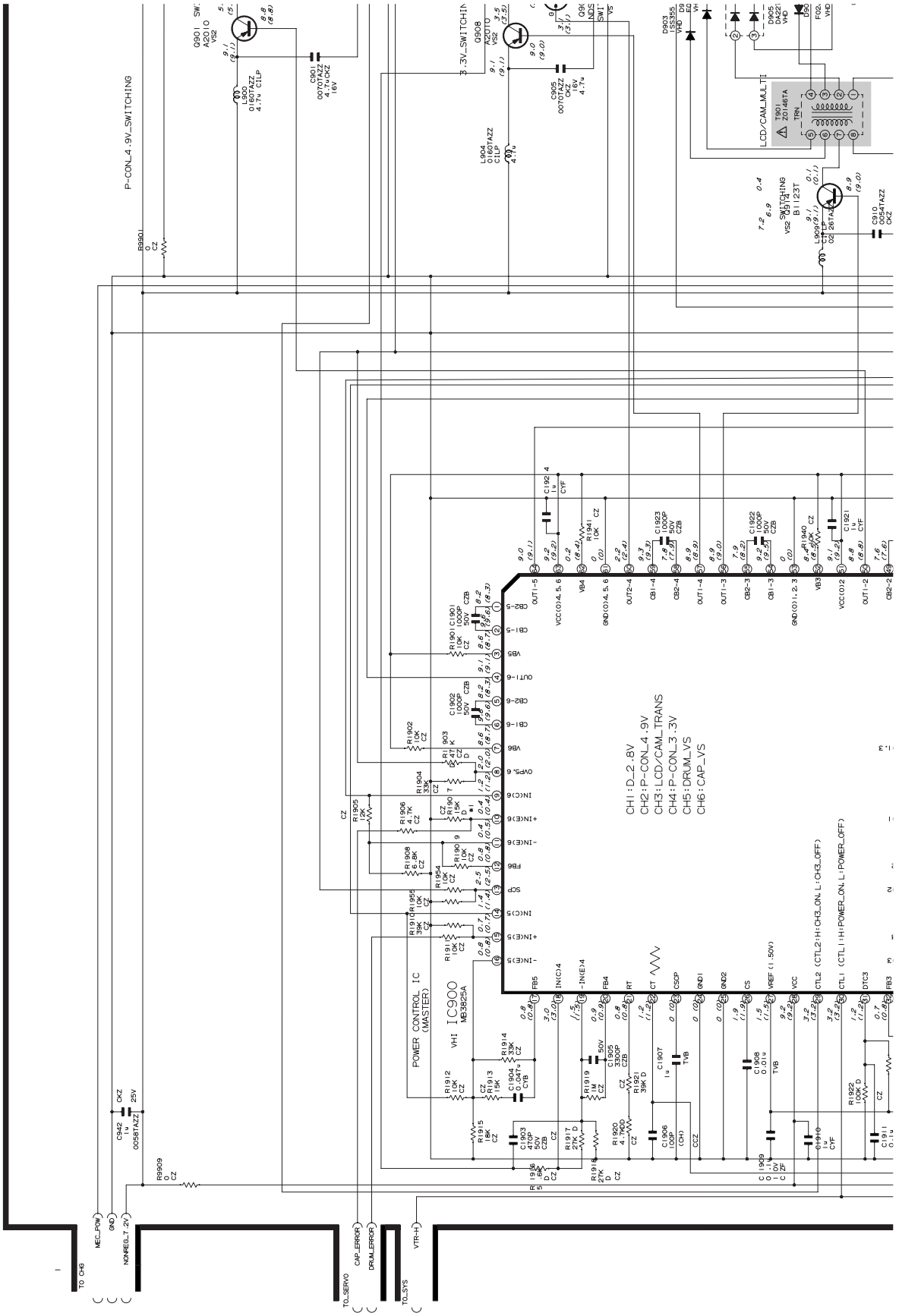
LOCATION MAP: 1 3 / 2 (4/4)



7-8. POWER CIRCUIT SCHEMATIC DIAGRAM

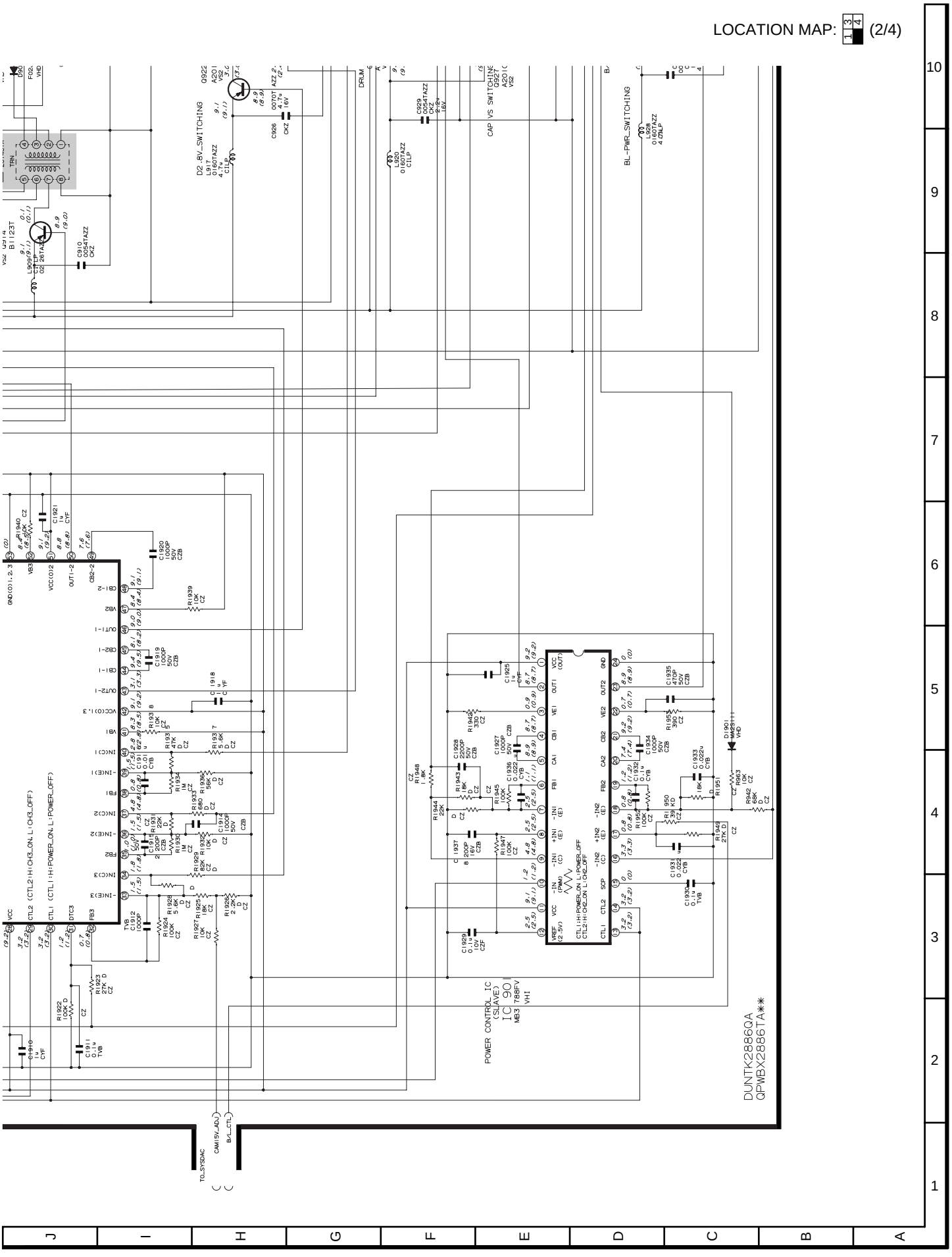
LOCATION MAP: 3 / 2 4 (1/4)

⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS

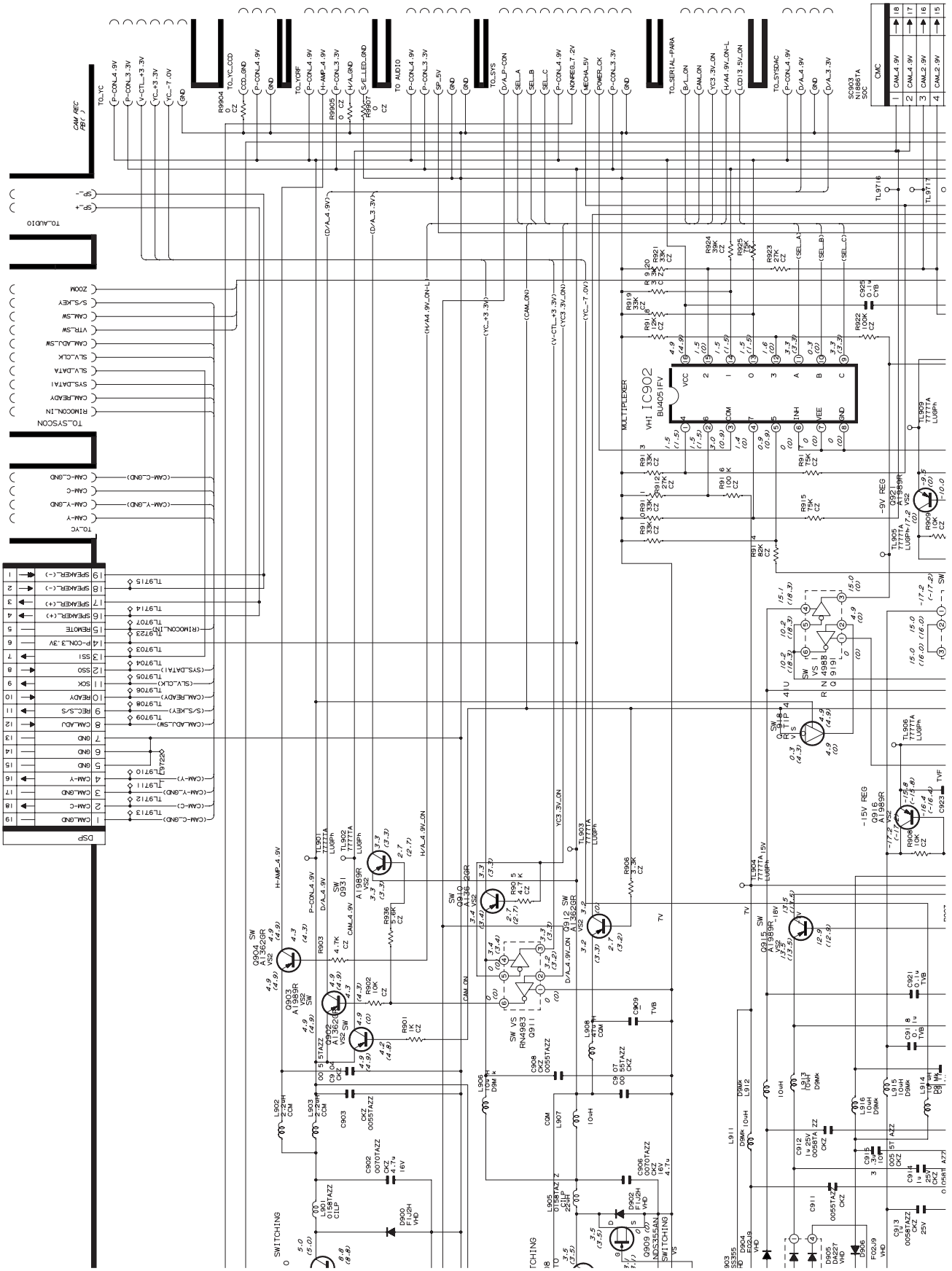


S	R	Q	P	O	N	M	L	K	J

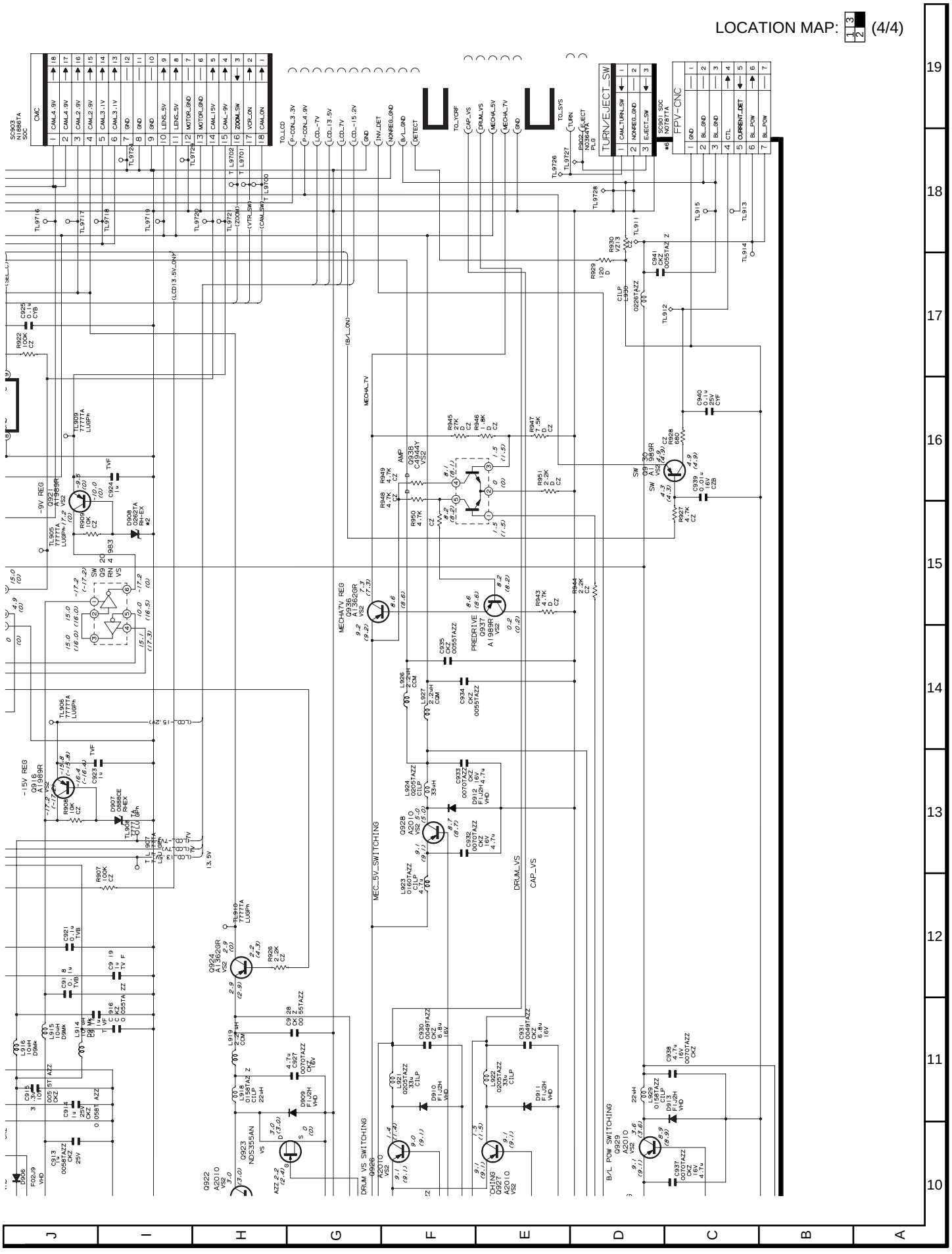
LOCATION MAP: 1 3 4 (2/4)



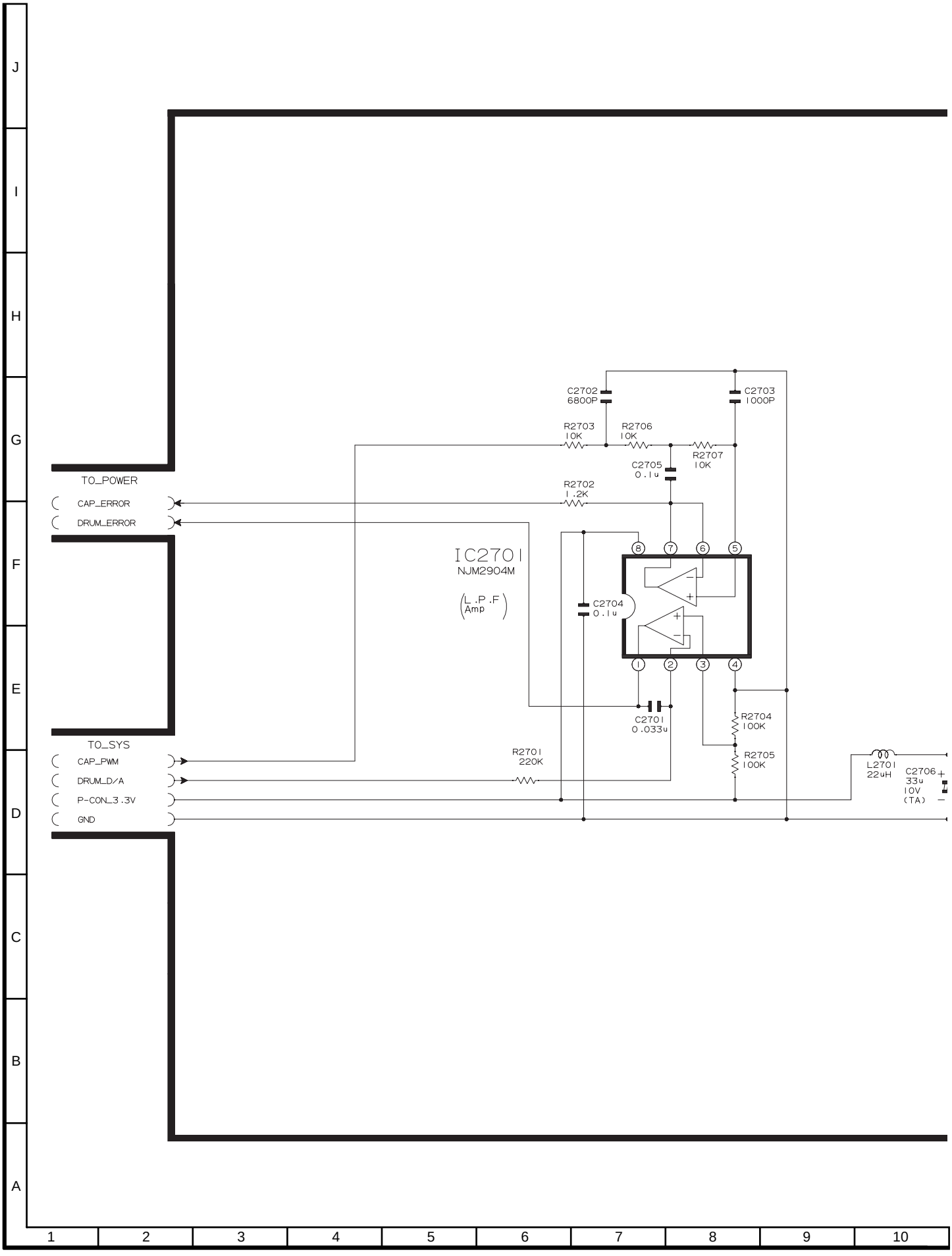
LOCATION MAP: 1 2 4 (3/4)

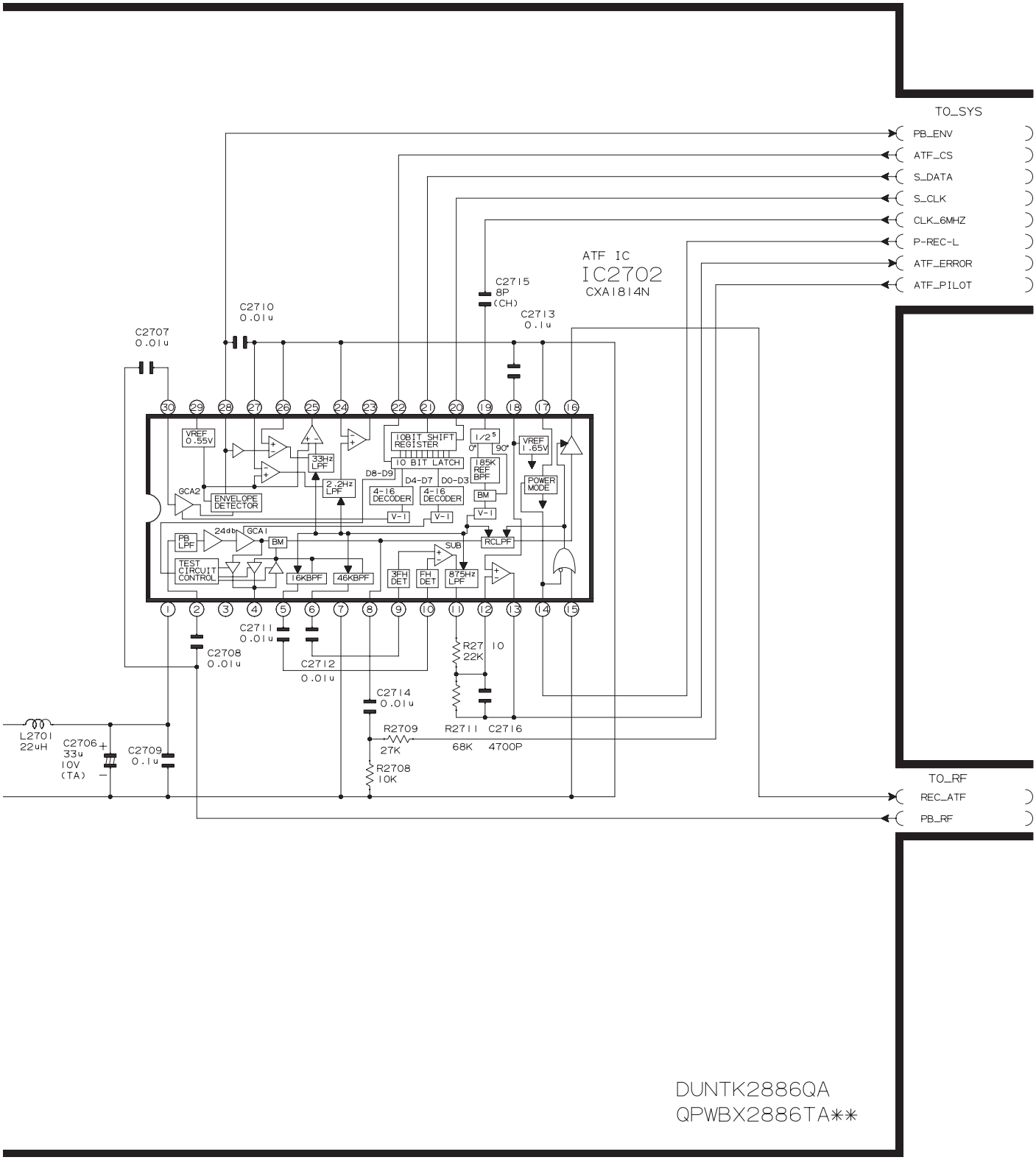


LOCATION MAP: 1 3 / 2 (4/4)



7-9. SERVO CIRCUIT SCHEMATIC DIAGRAM

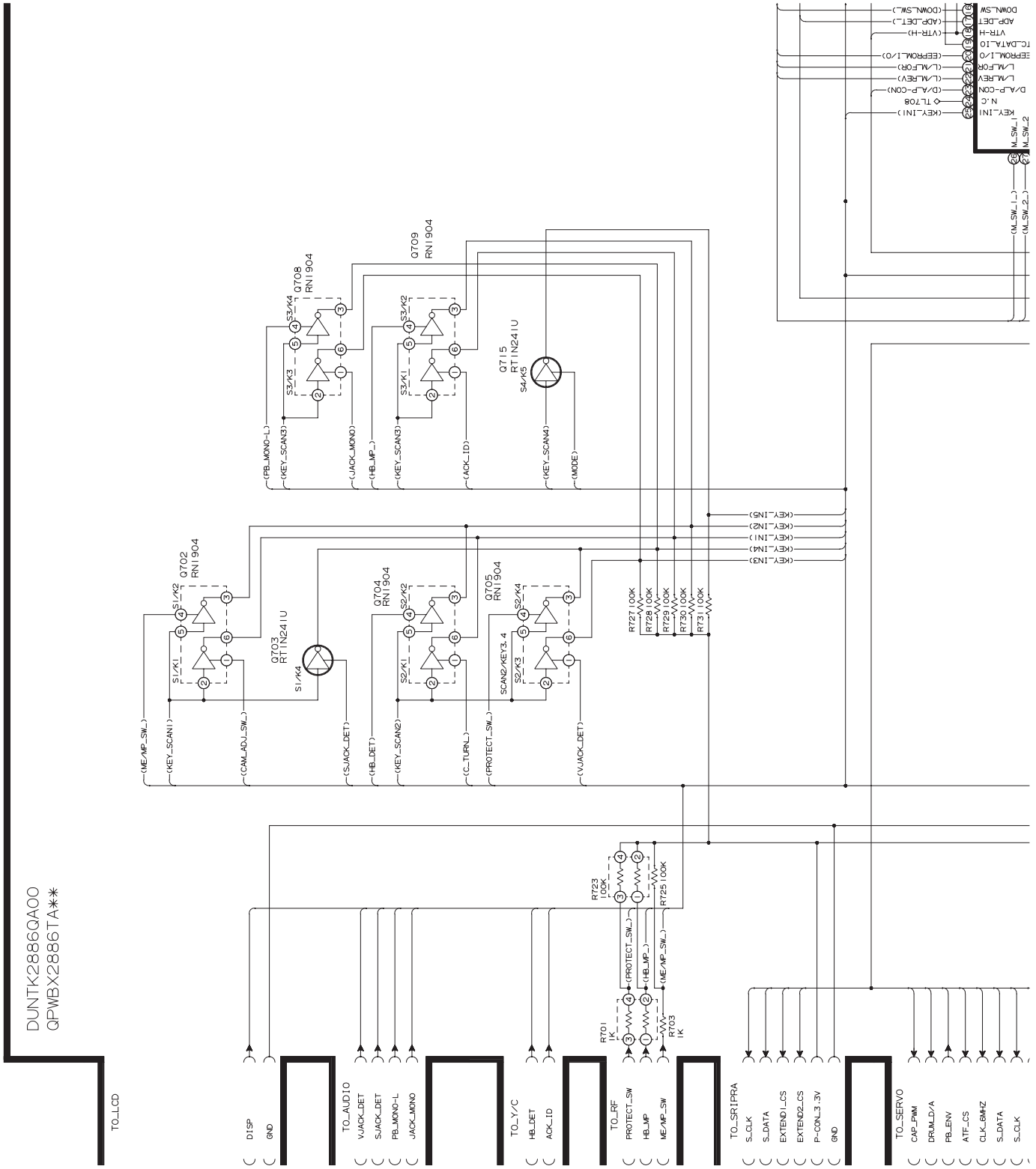




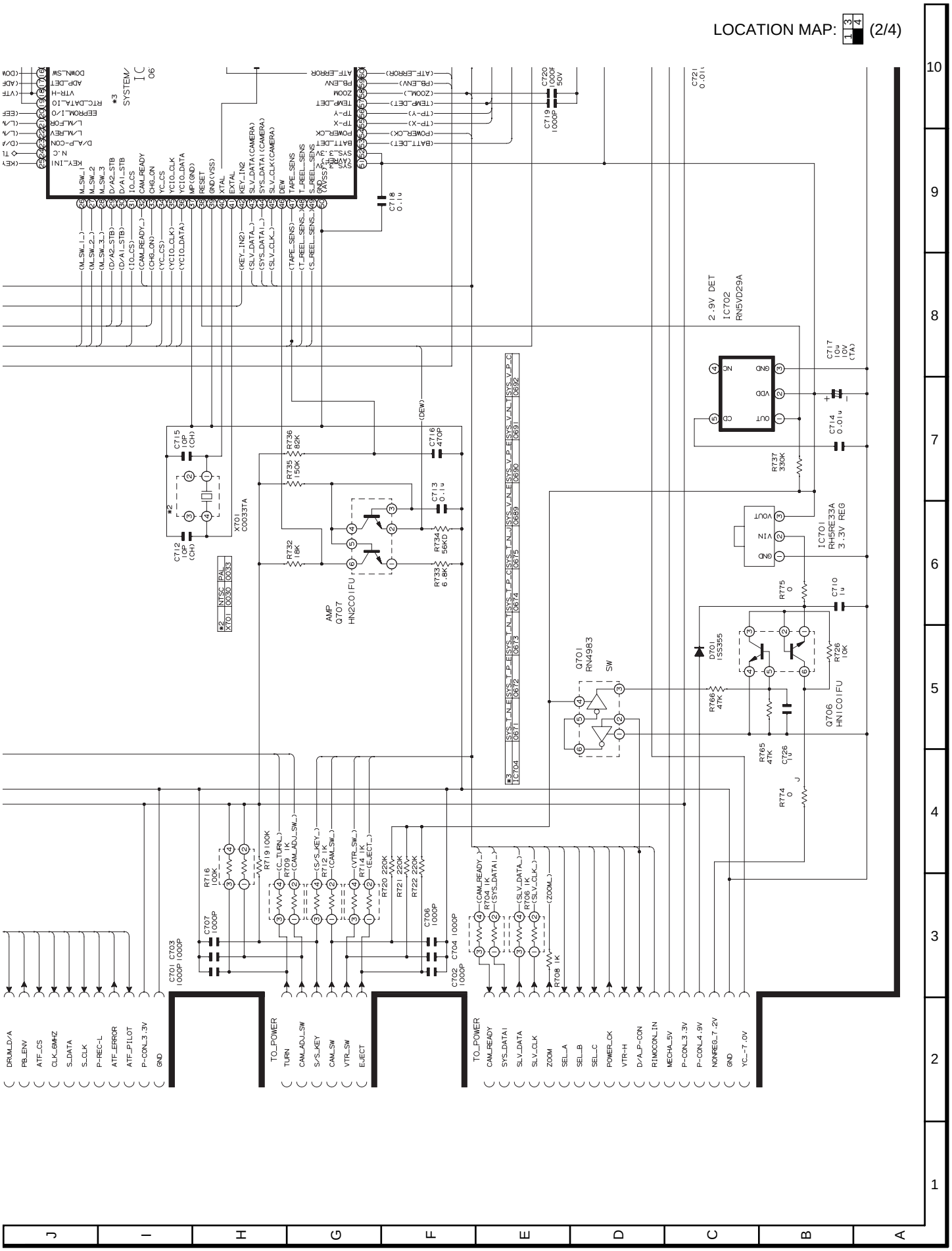
10	11	12	13	14	15	16	17	18	19

7-10. SYSTEM CONTROL CIRCUIT SCHEMATIC DIAGRAM (VL-H860S/H/H94E)

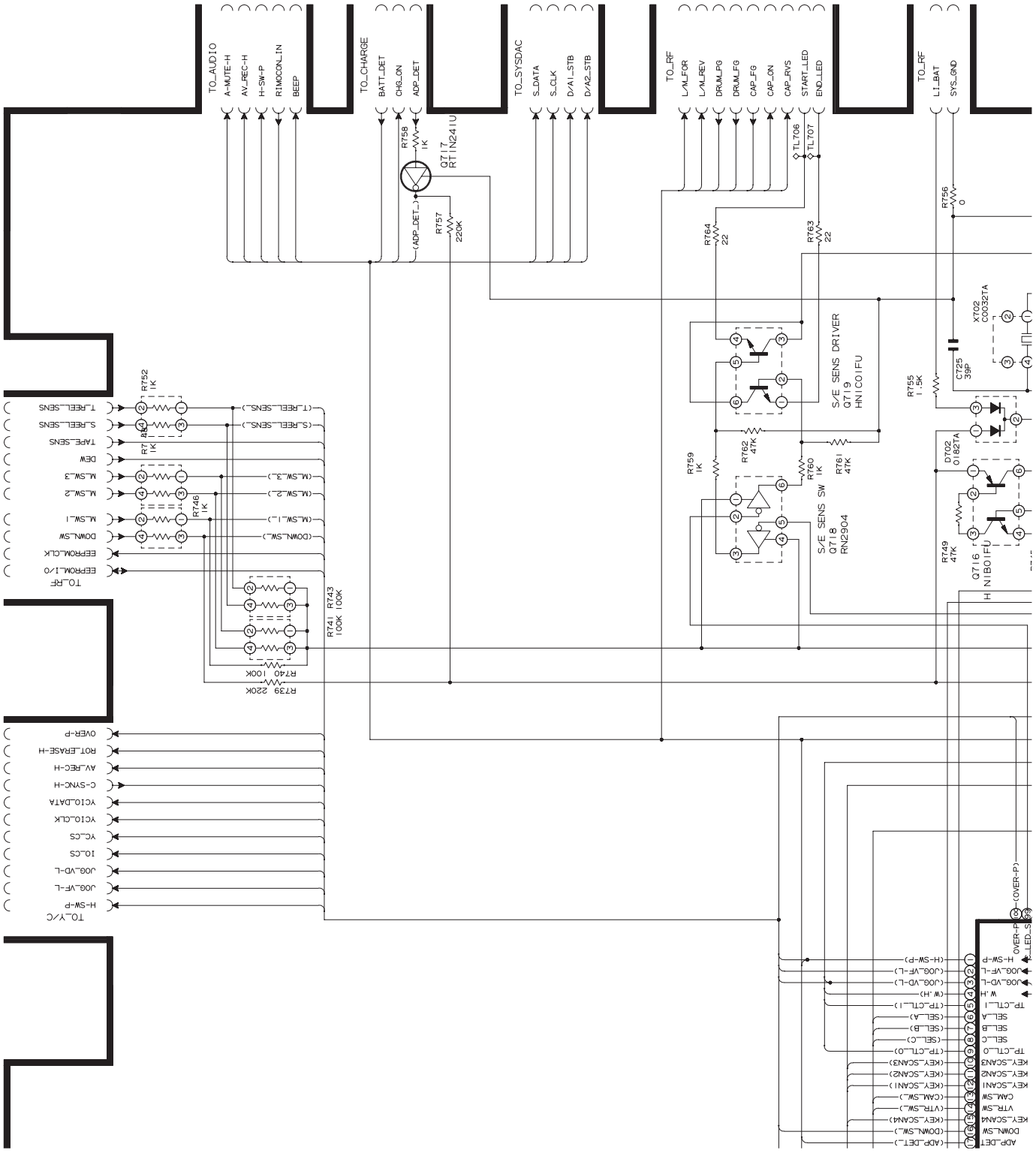
LOCATION MAP: 3 / 2 4 (1/4)



LOCATION MAP: 1 3 4 (2/4)

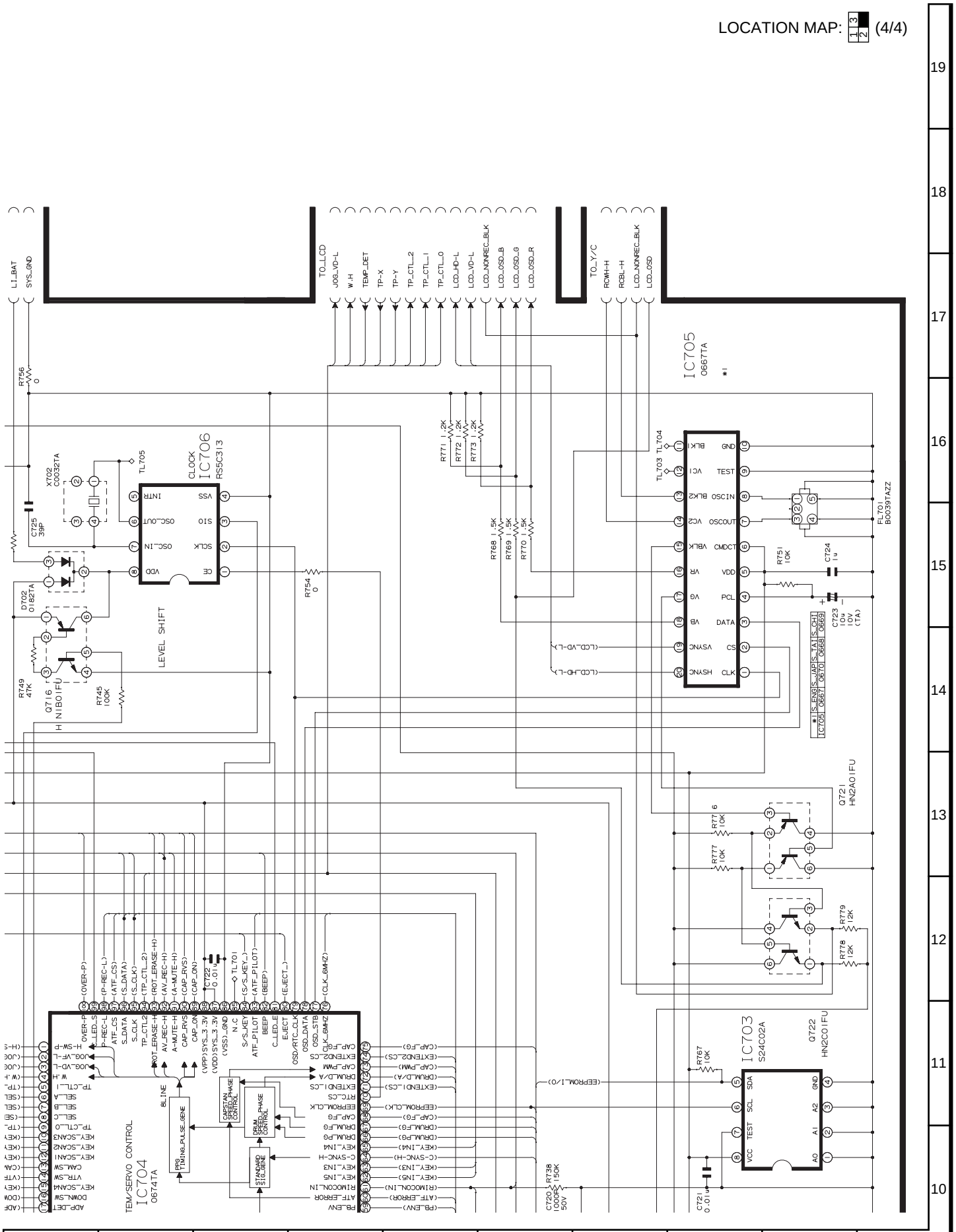


LOCATION MAP: 1 2 4 (3/4)



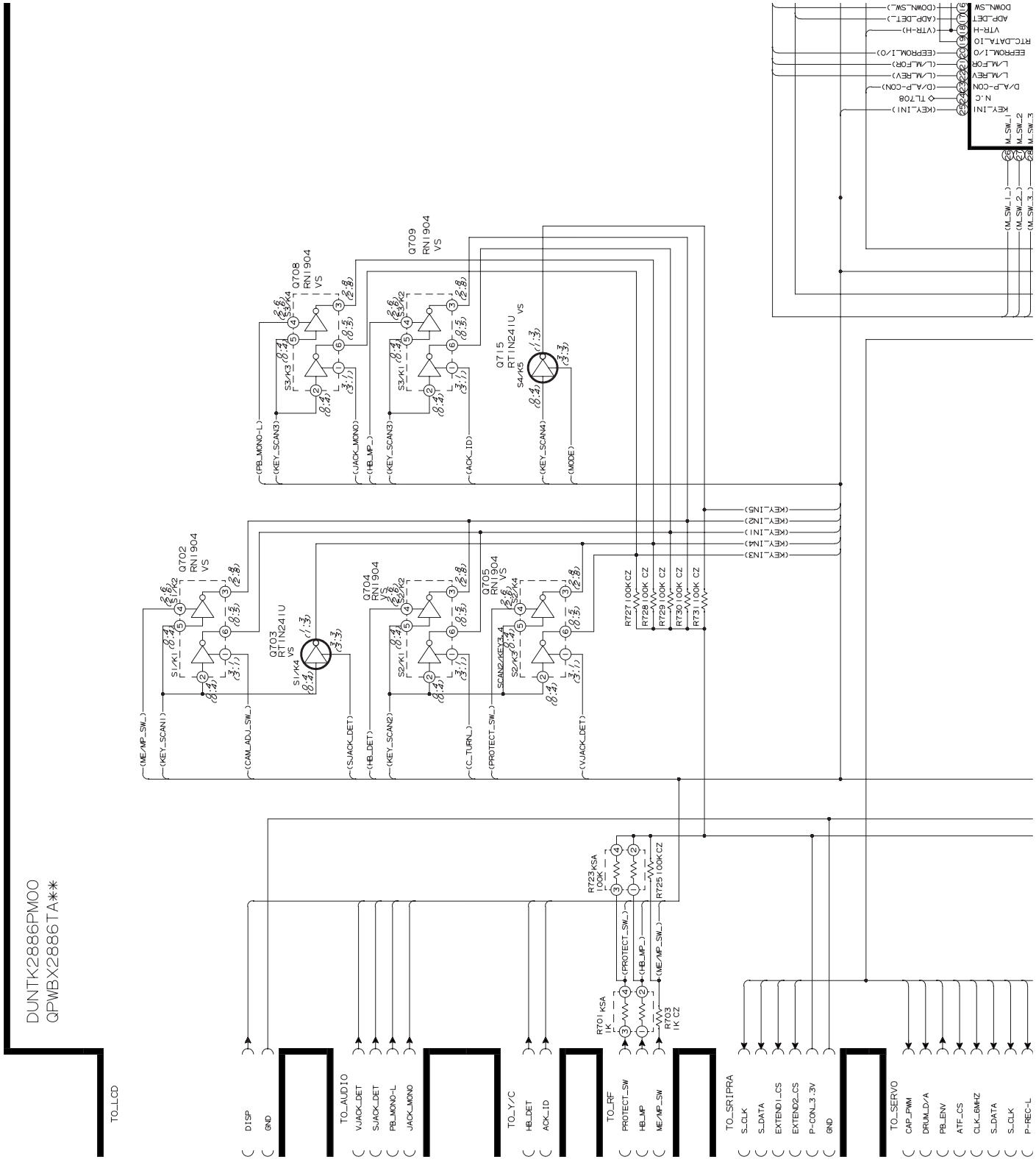
S R Q P O N M L K J

LOCATION MAP: 1 3 / 2 (4/4)

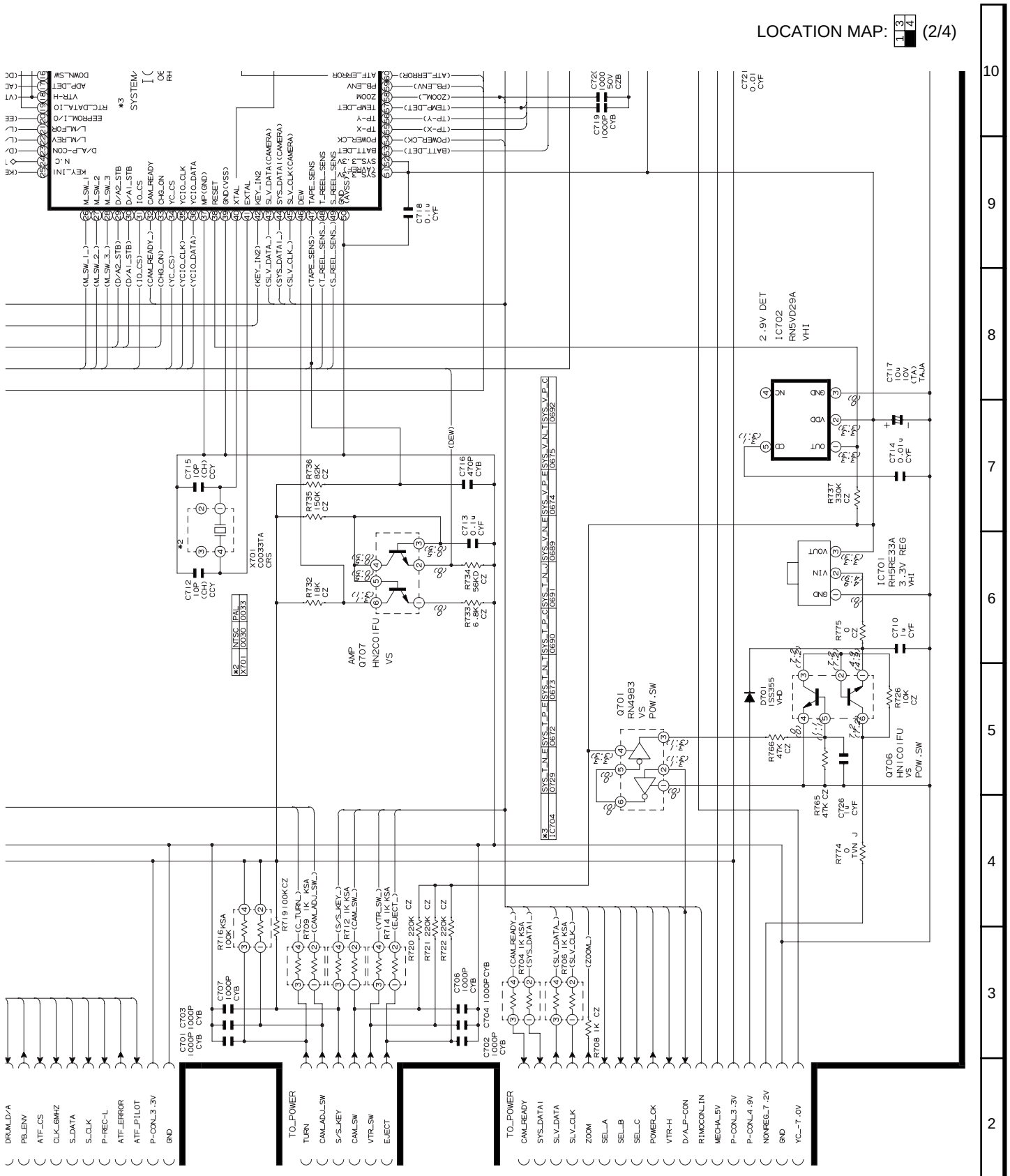


7-10. SYSTEM CONTROL CIRCUIT SCHEMATIC DIAGRAM (VL-H870S/H890S/H96E/H960E)

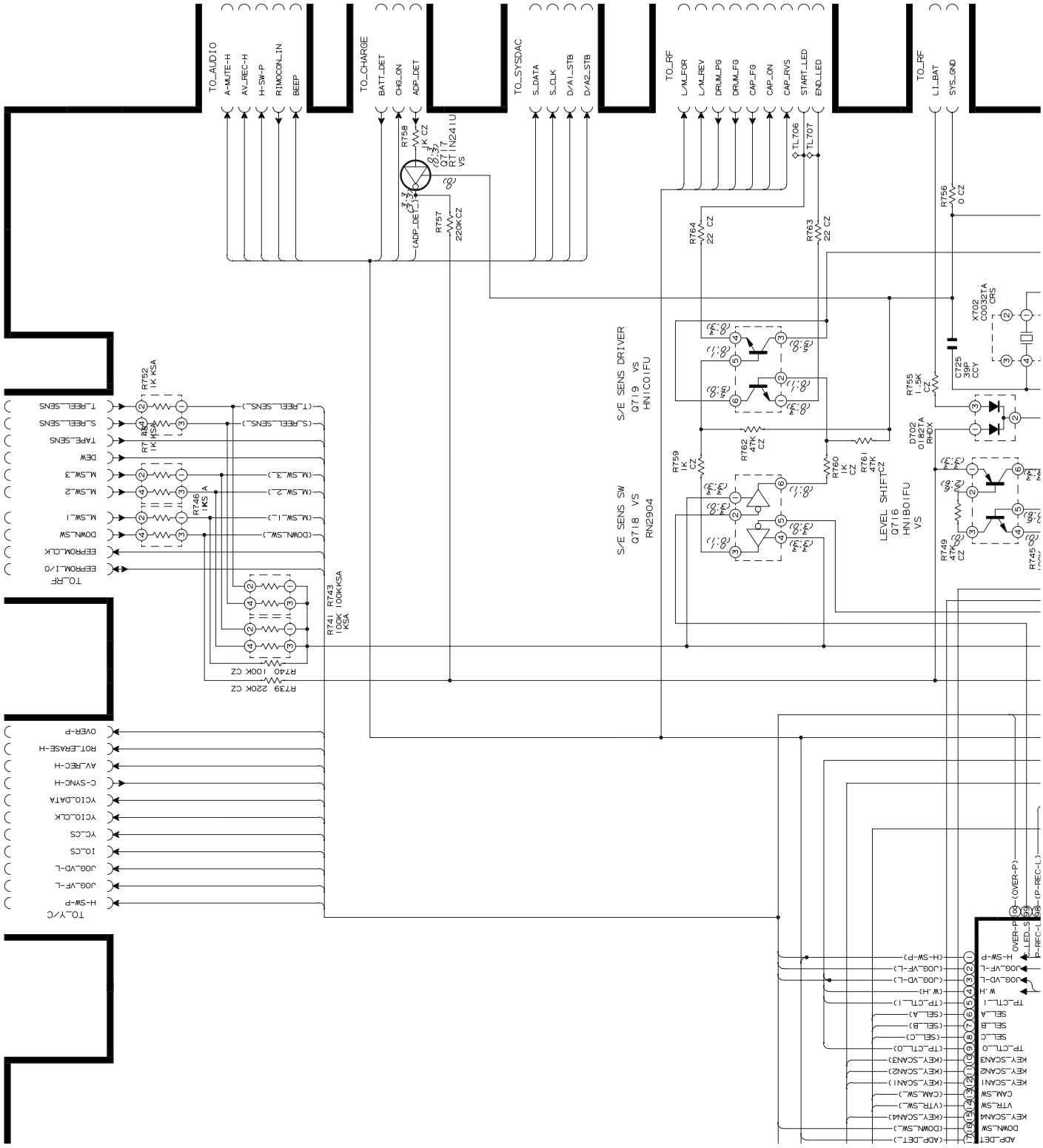
LOCATION MAP: 3 / 2 4 (1/4)



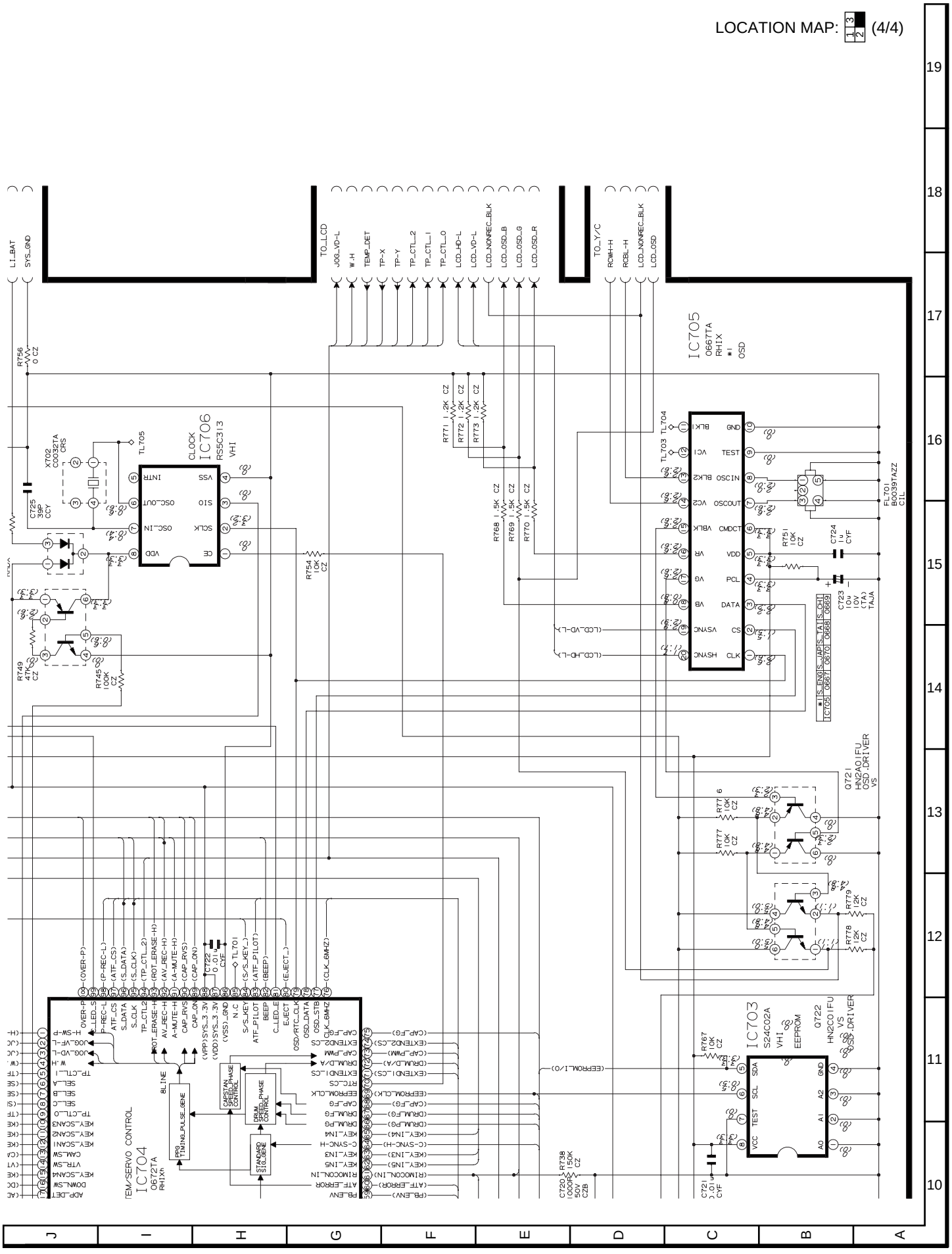
LOCATION MAP: 1 3 4 (2/4)



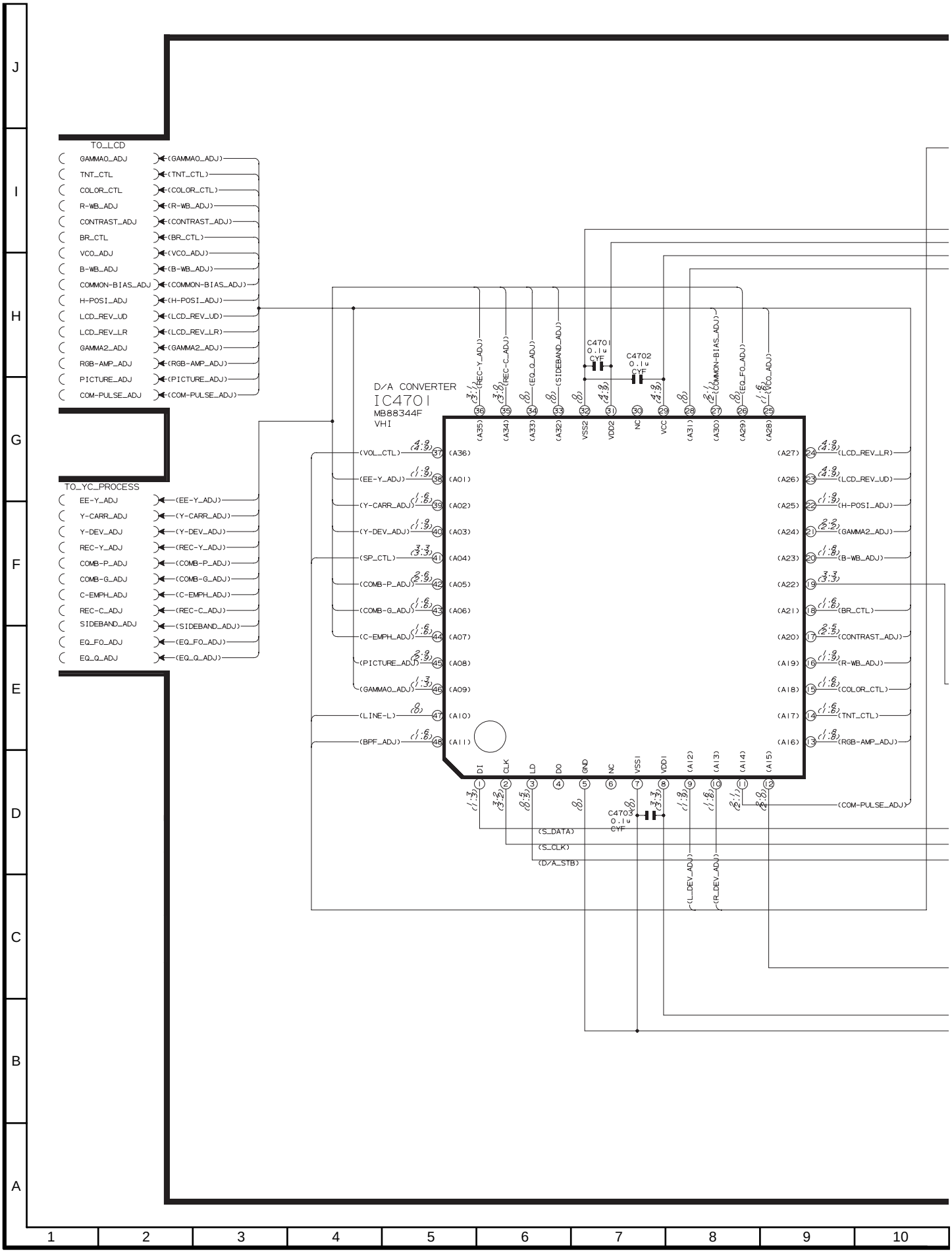
LOCATION MAP: 1 2 4 (3/4)

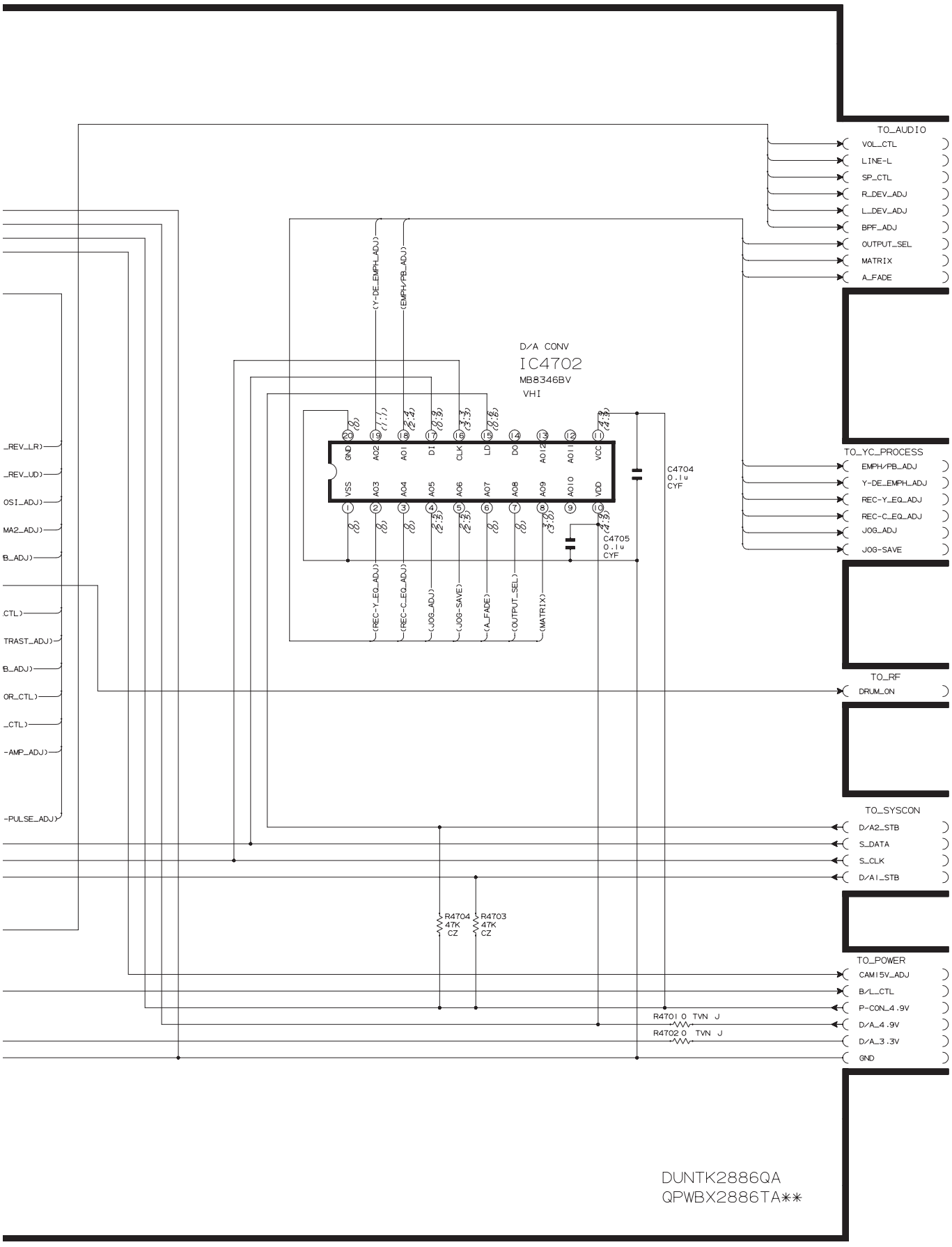


LOCATION MAP: 1 3 / 2 (4/4)



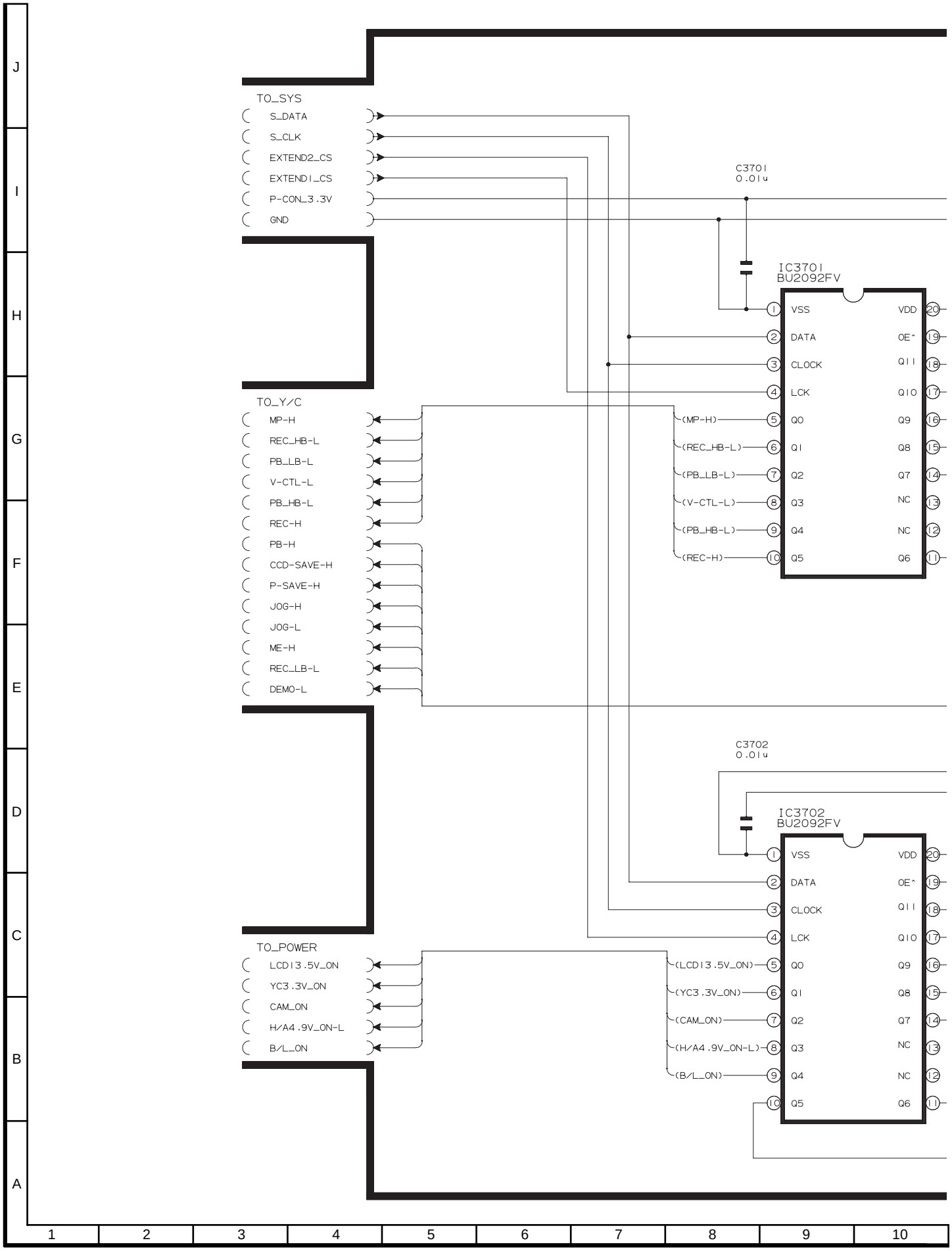
7-11. SYSTEM D/A CONVERTER CIRCUIT SCHEMATIC DIAGRAM

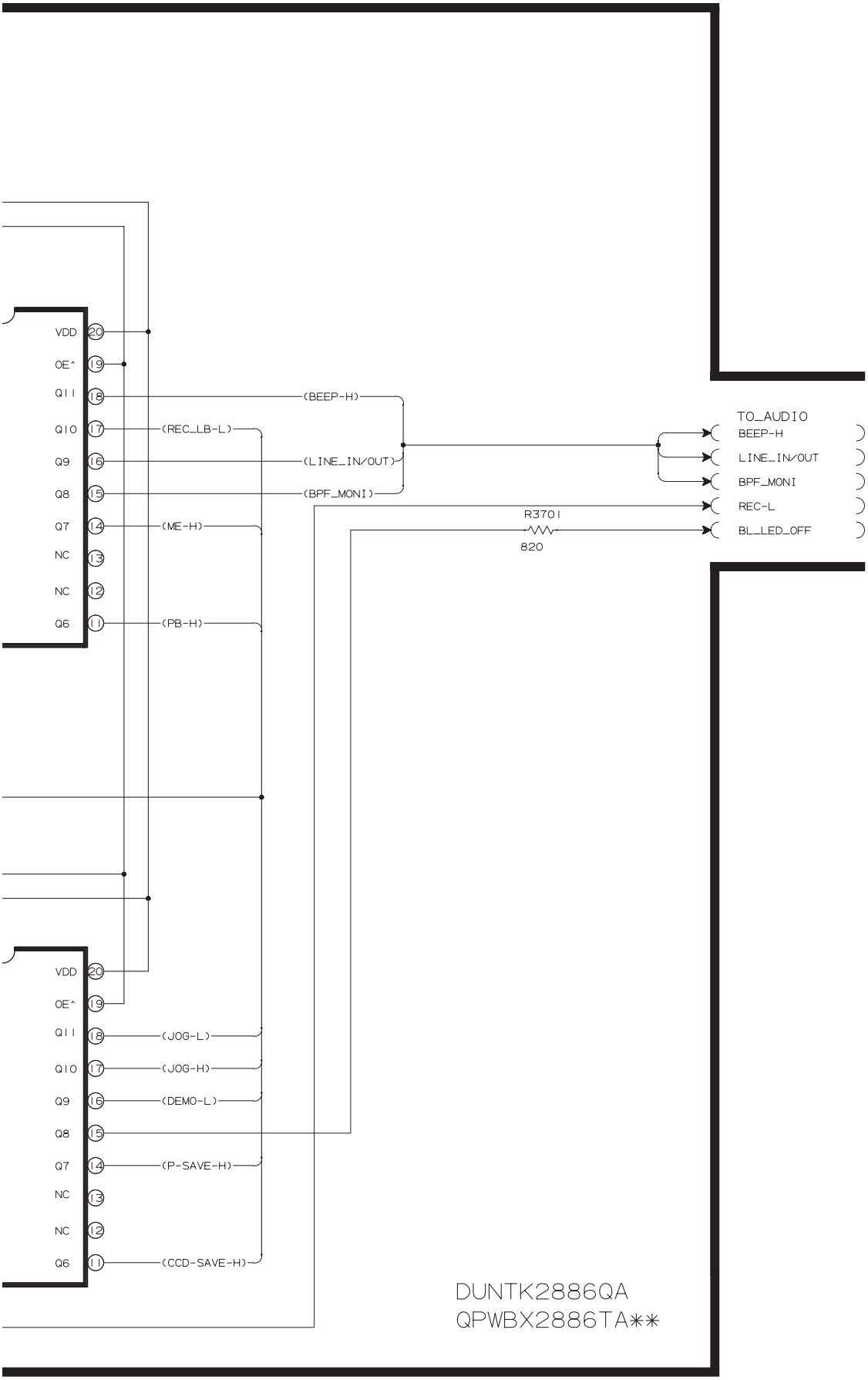




10	11	12	13	14	15	16	17	18	19

7-12. SRIPRA CIRCUIT SCHEMATIC DIAGRAM

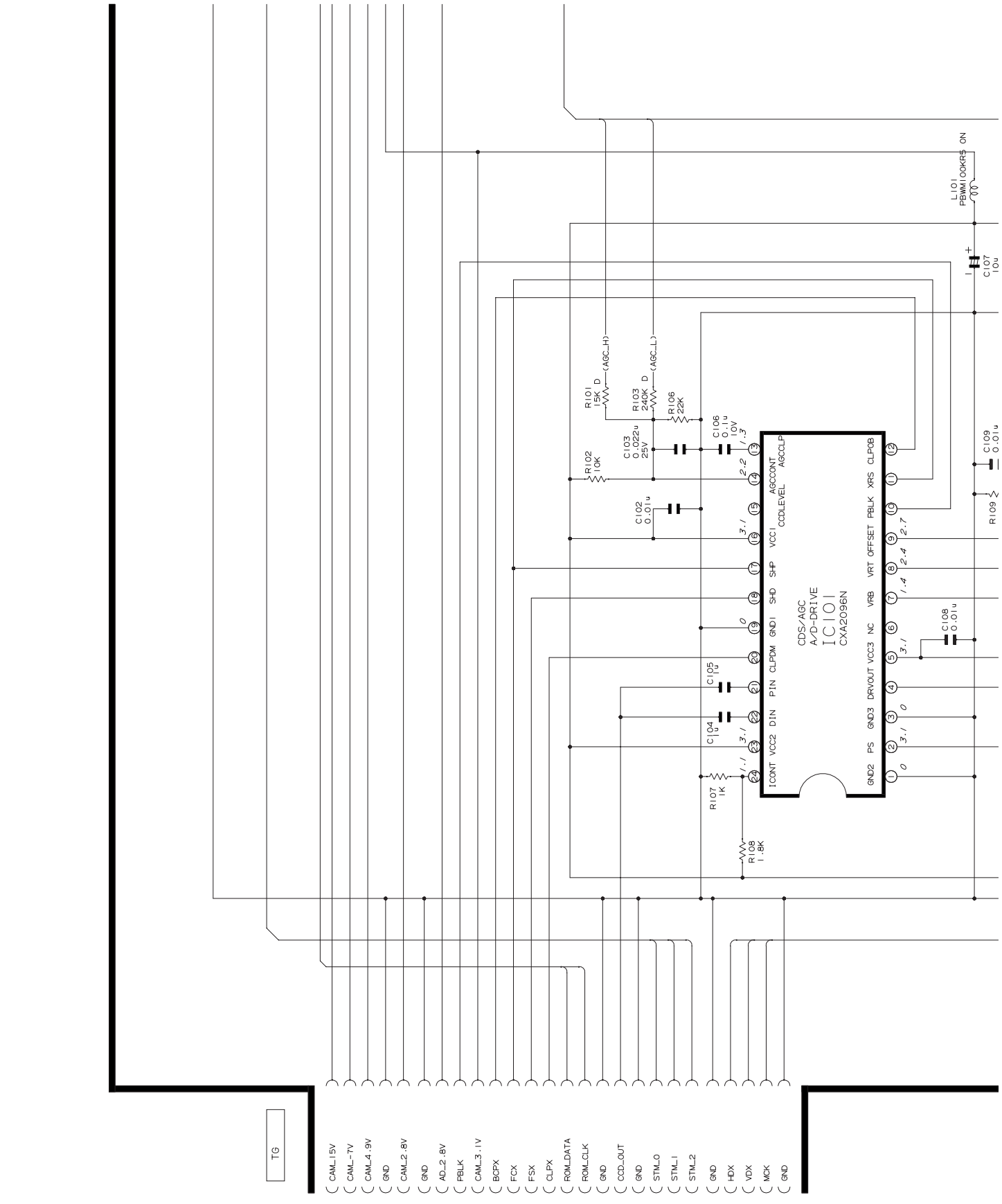




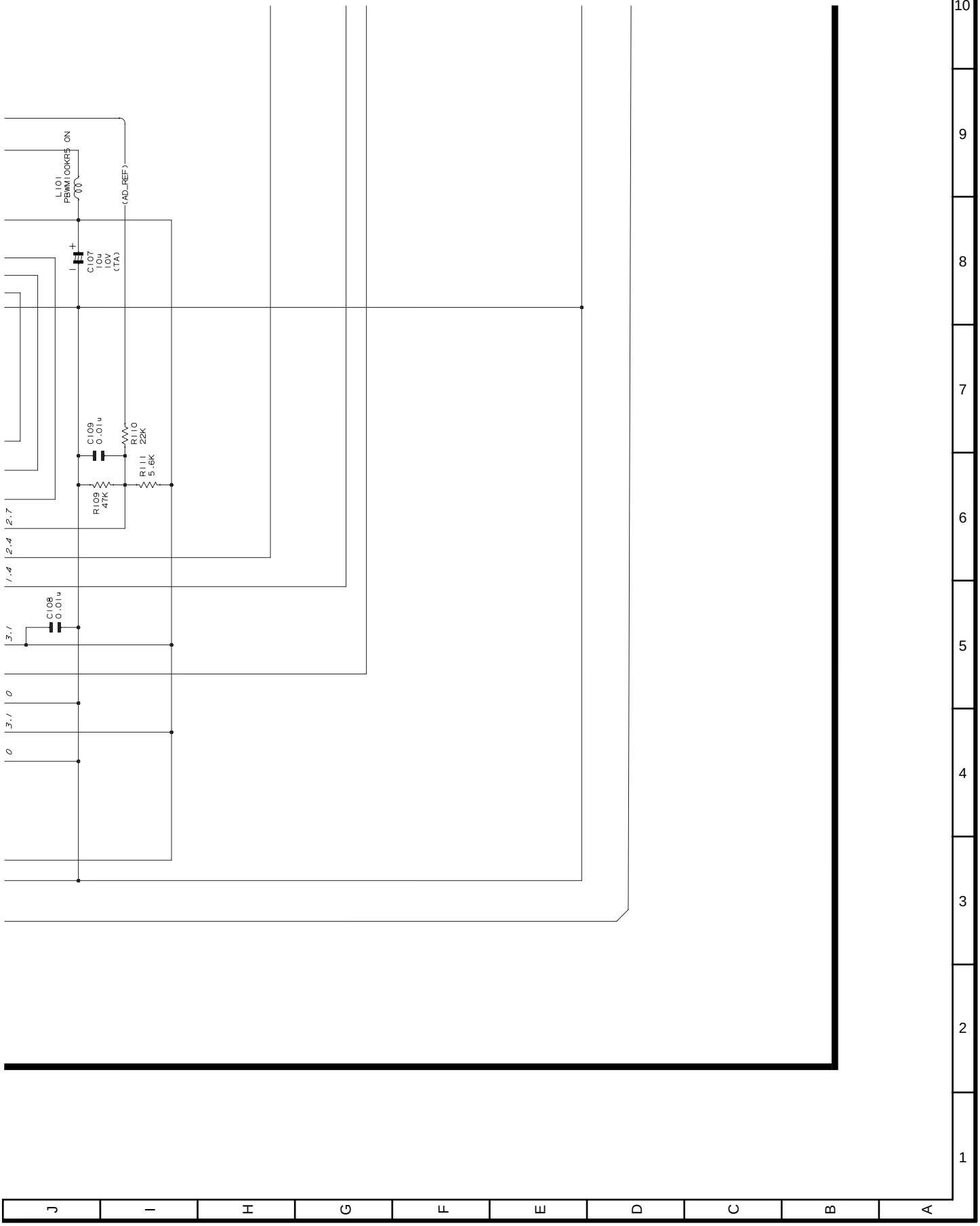
10	11	12	13	14	15	16	17	18	19

7-13. CDS/ADC CIRCUIT SCHEMATIC DIAGRAM

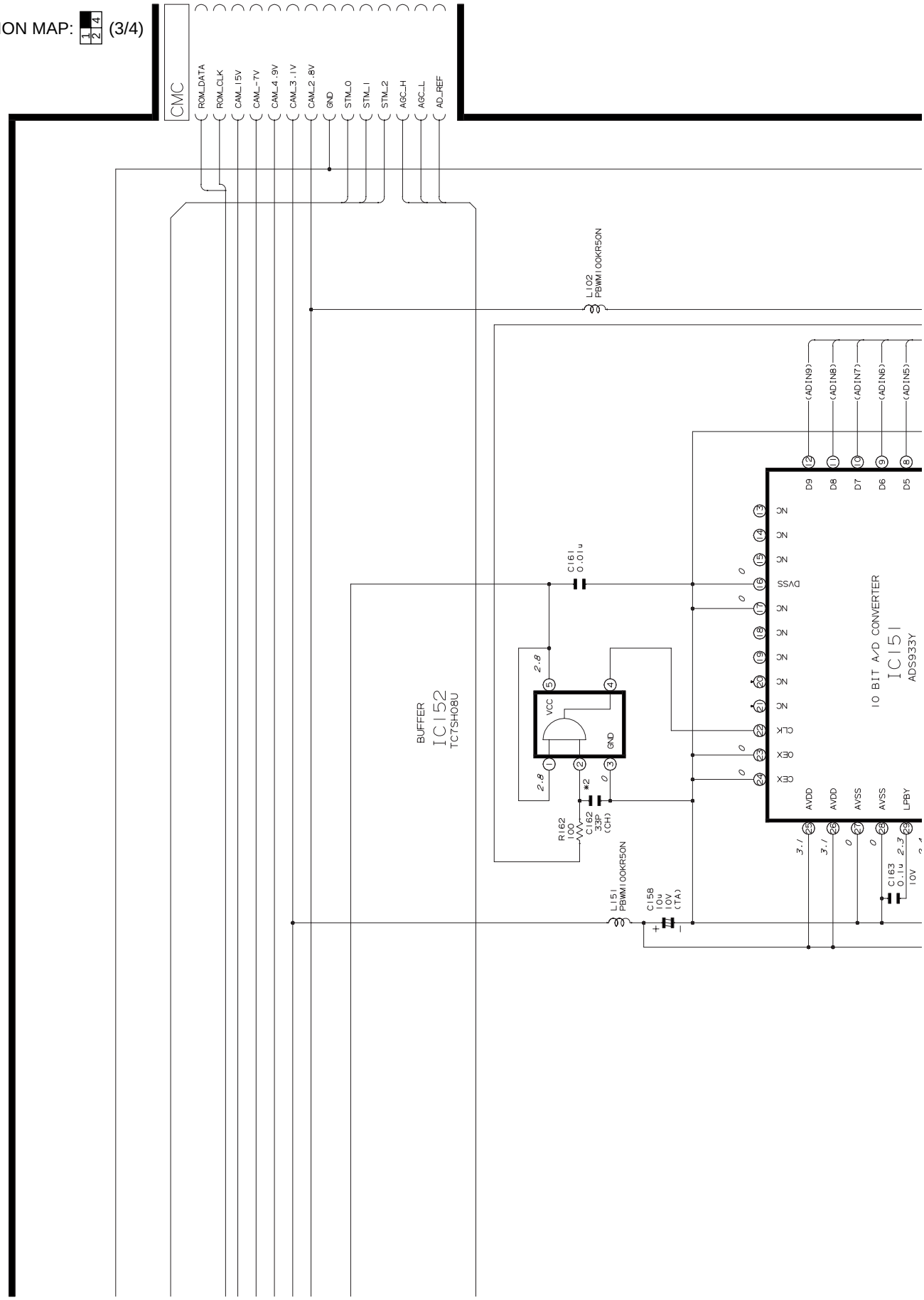
LOCATION MAP: 3 / 2 4 (1/4)



LOCATION MAP: 1 3 4 (2/4)

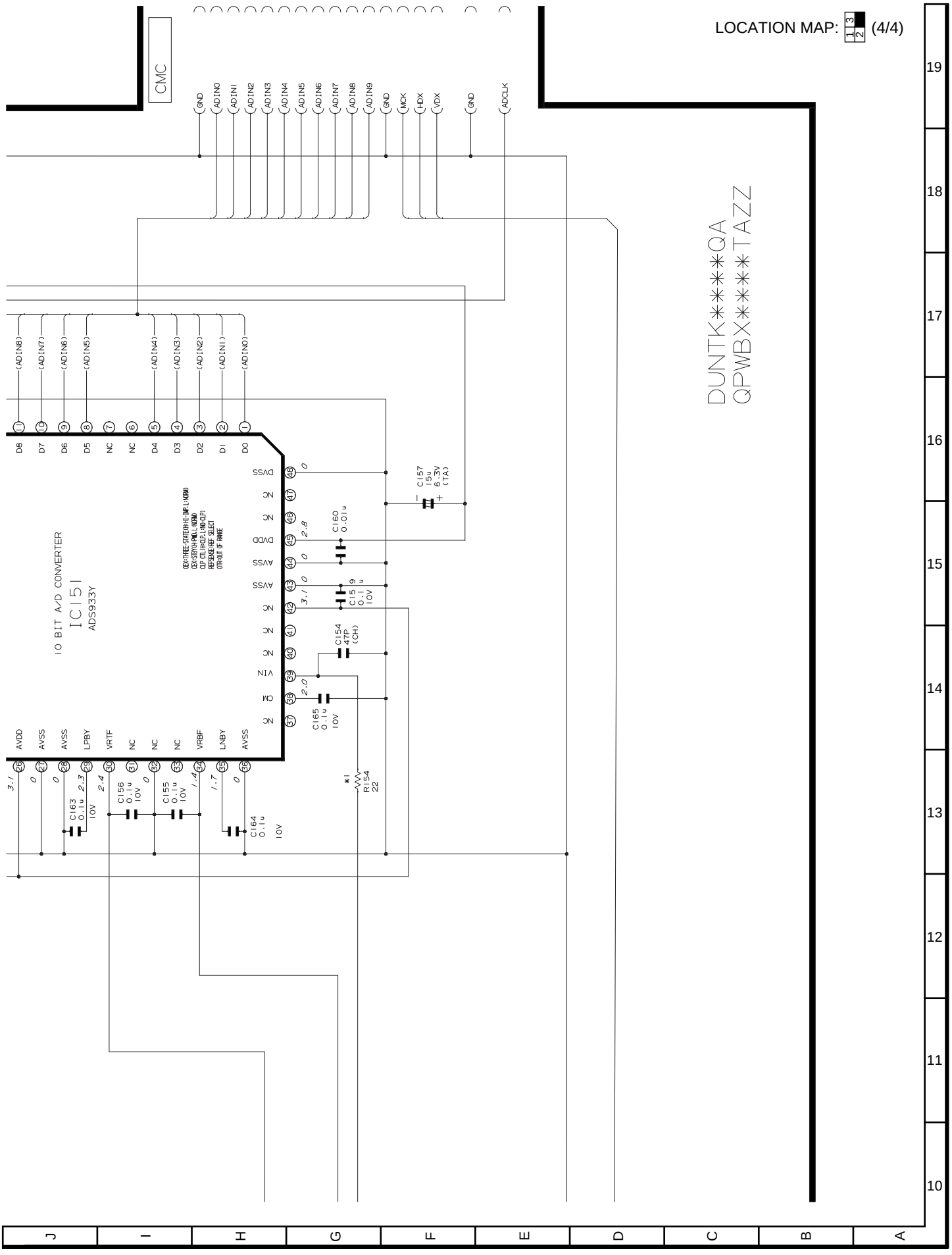


LOCATION MAP: 1 2 4 (3/4)



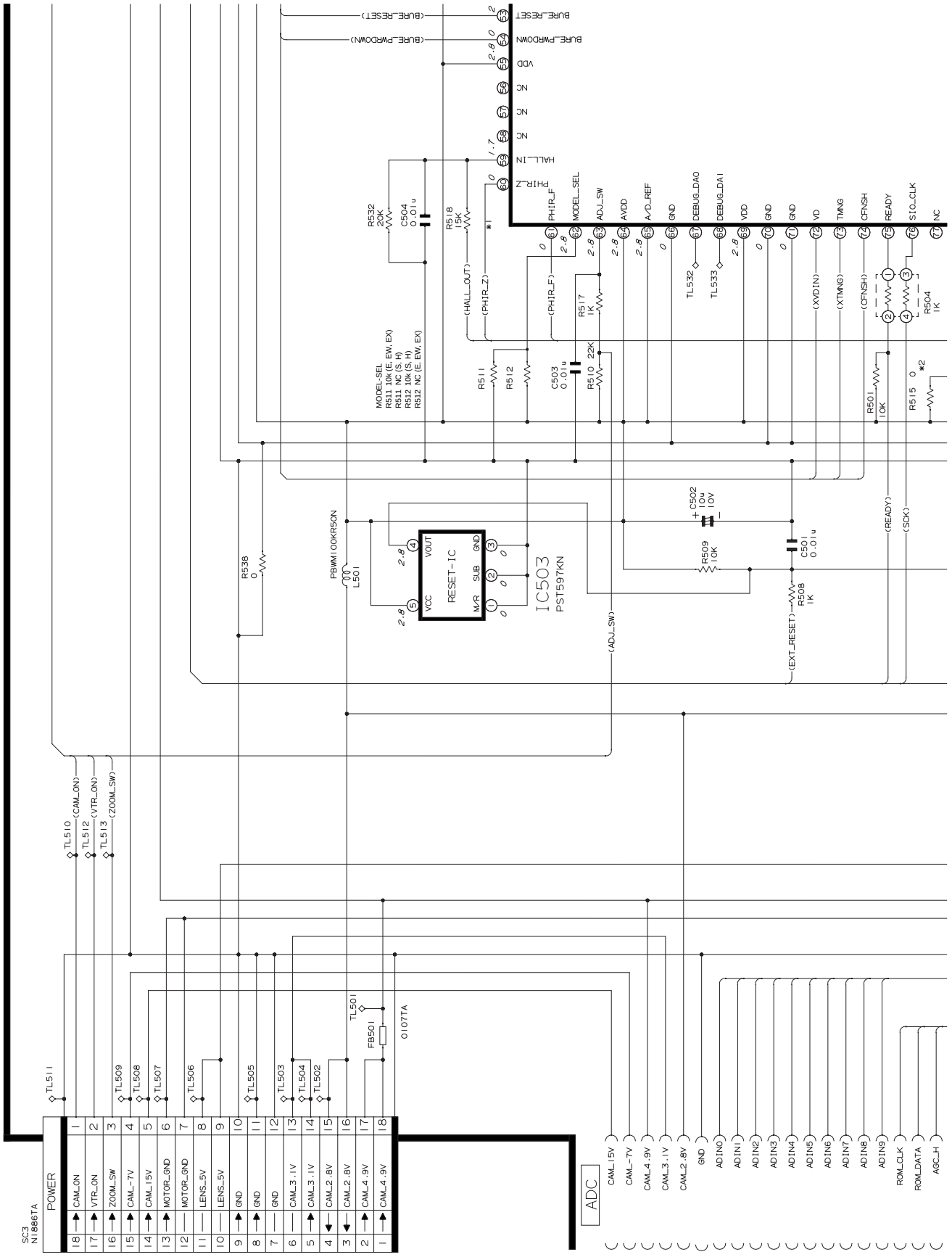
S	R	Q	P	O	N	M	L	K	J

LOCATION MAP: 1 3 / 2 (4/4)

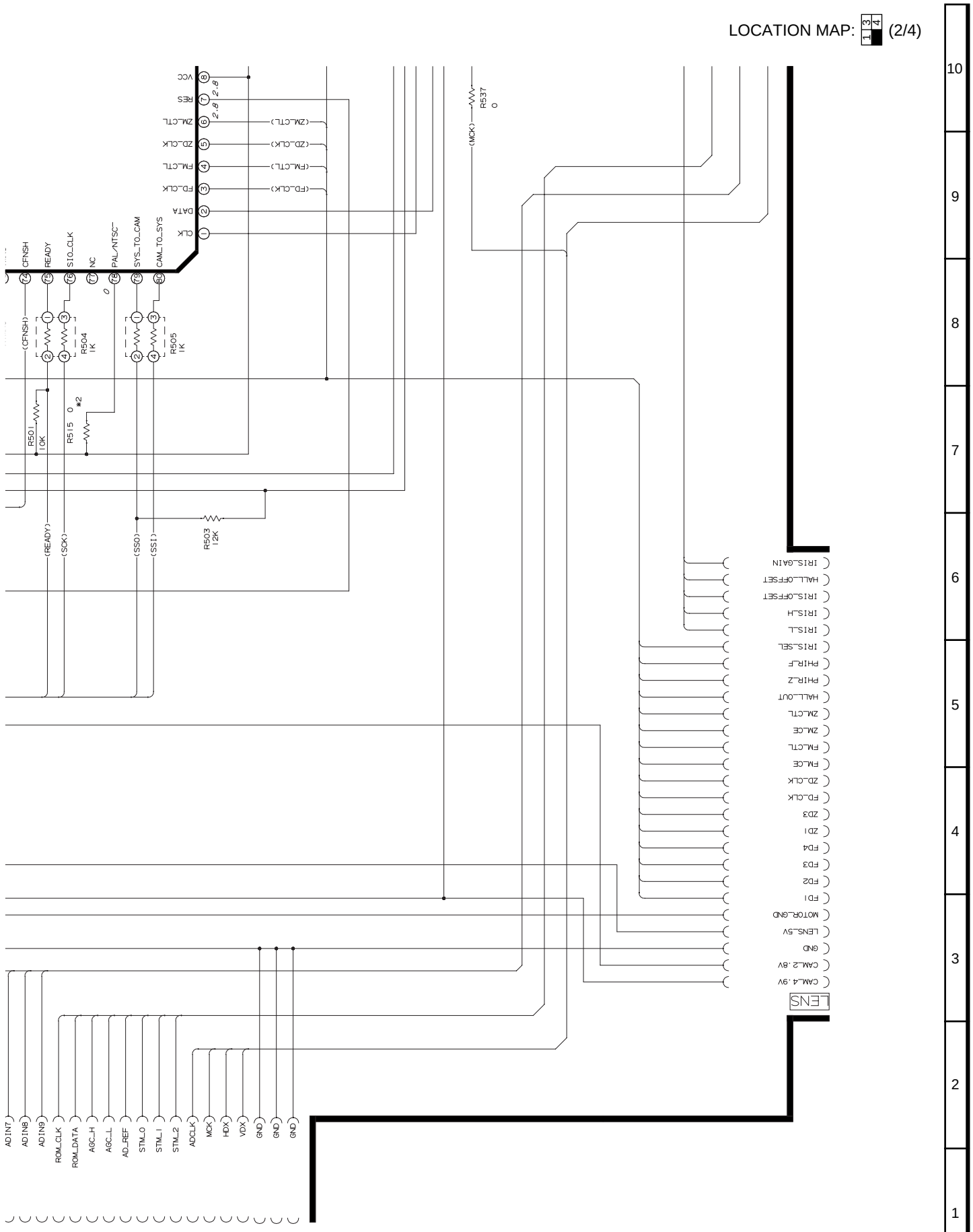


7-14. CMC CIRCUIT SCHEMATIC DIAGRAM

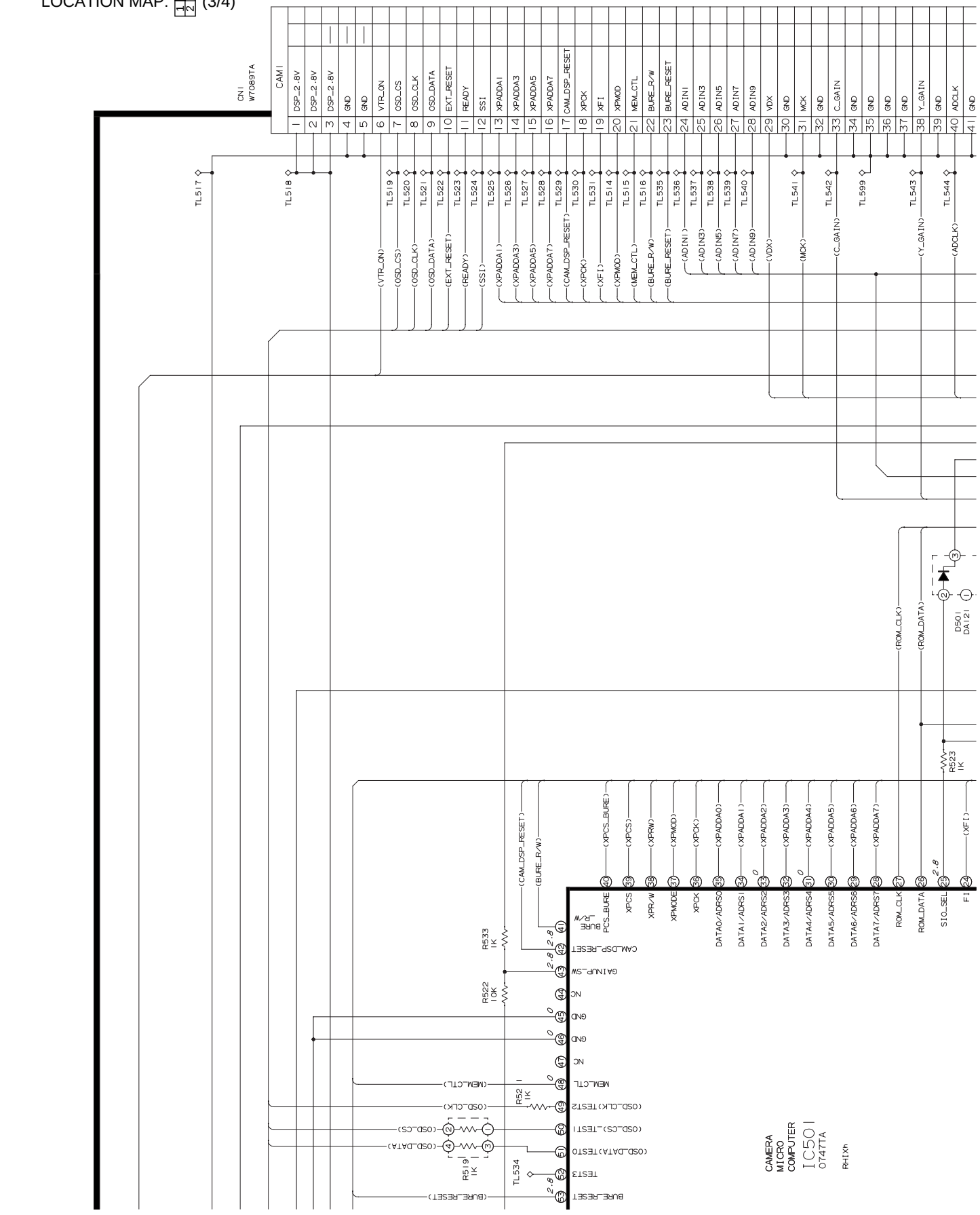
LOCATION MAP: 3 / 2 4 (1/4)



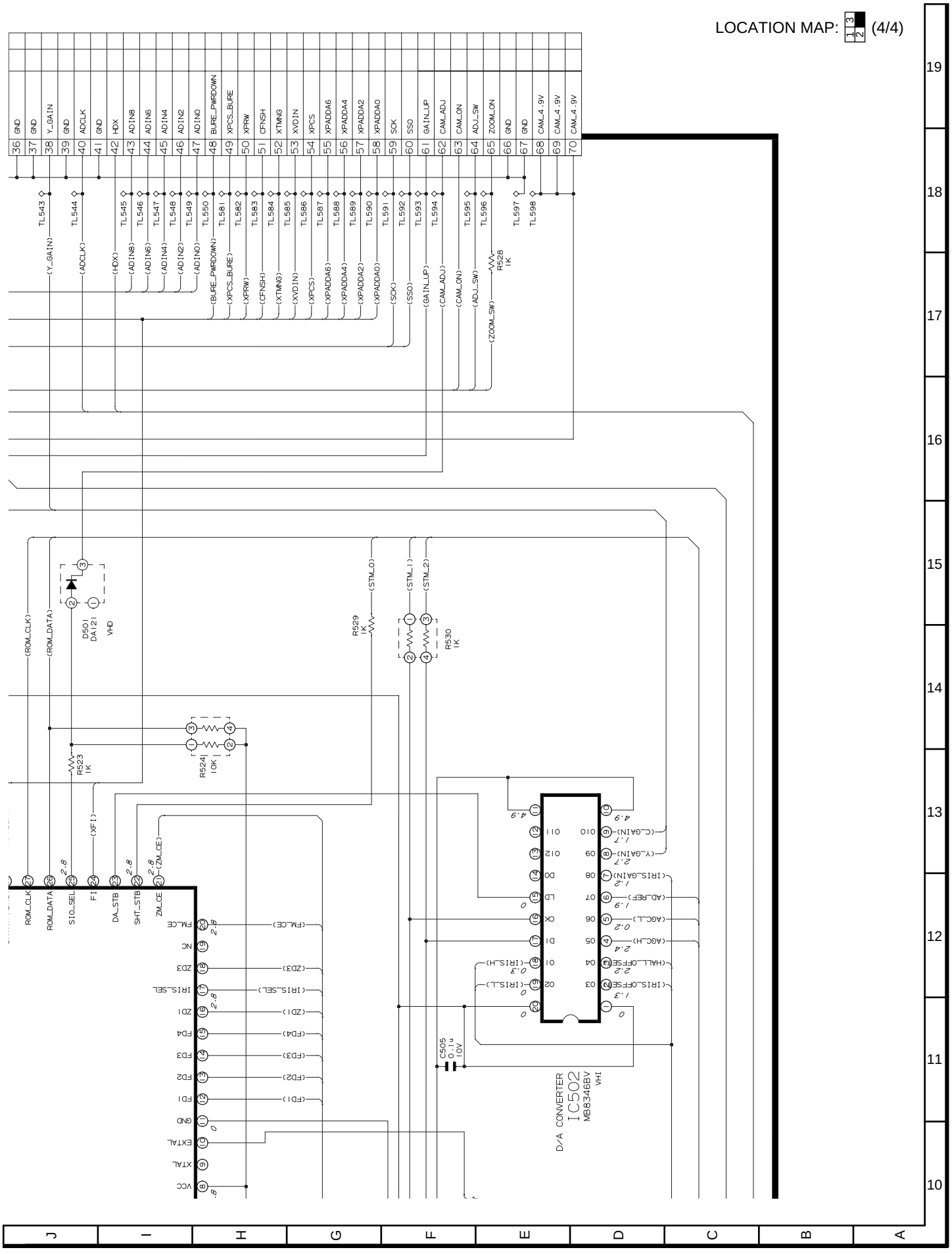
LOCATION MAP: (2/4)



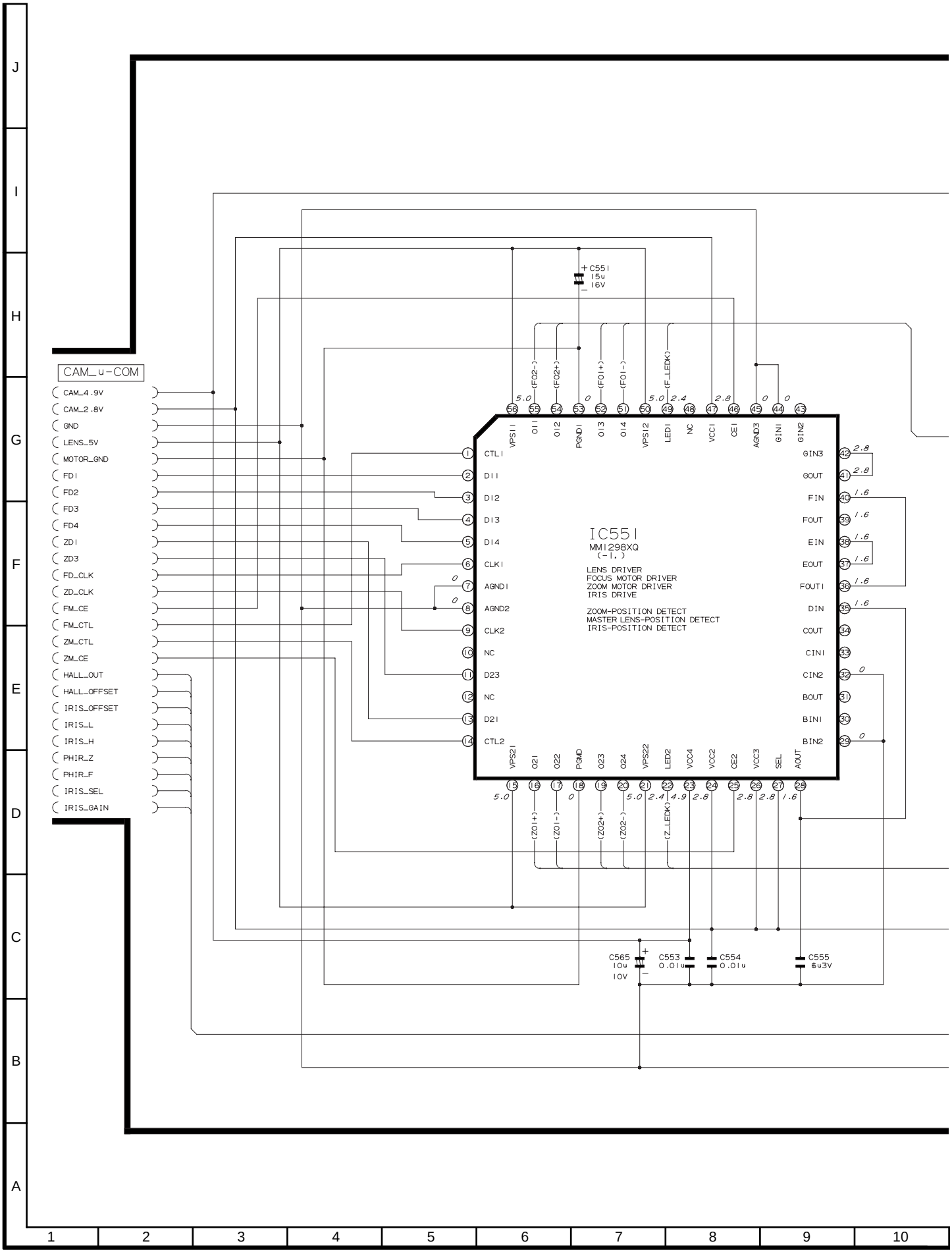
LOCATION MAP: 1 2 4 (3/4)

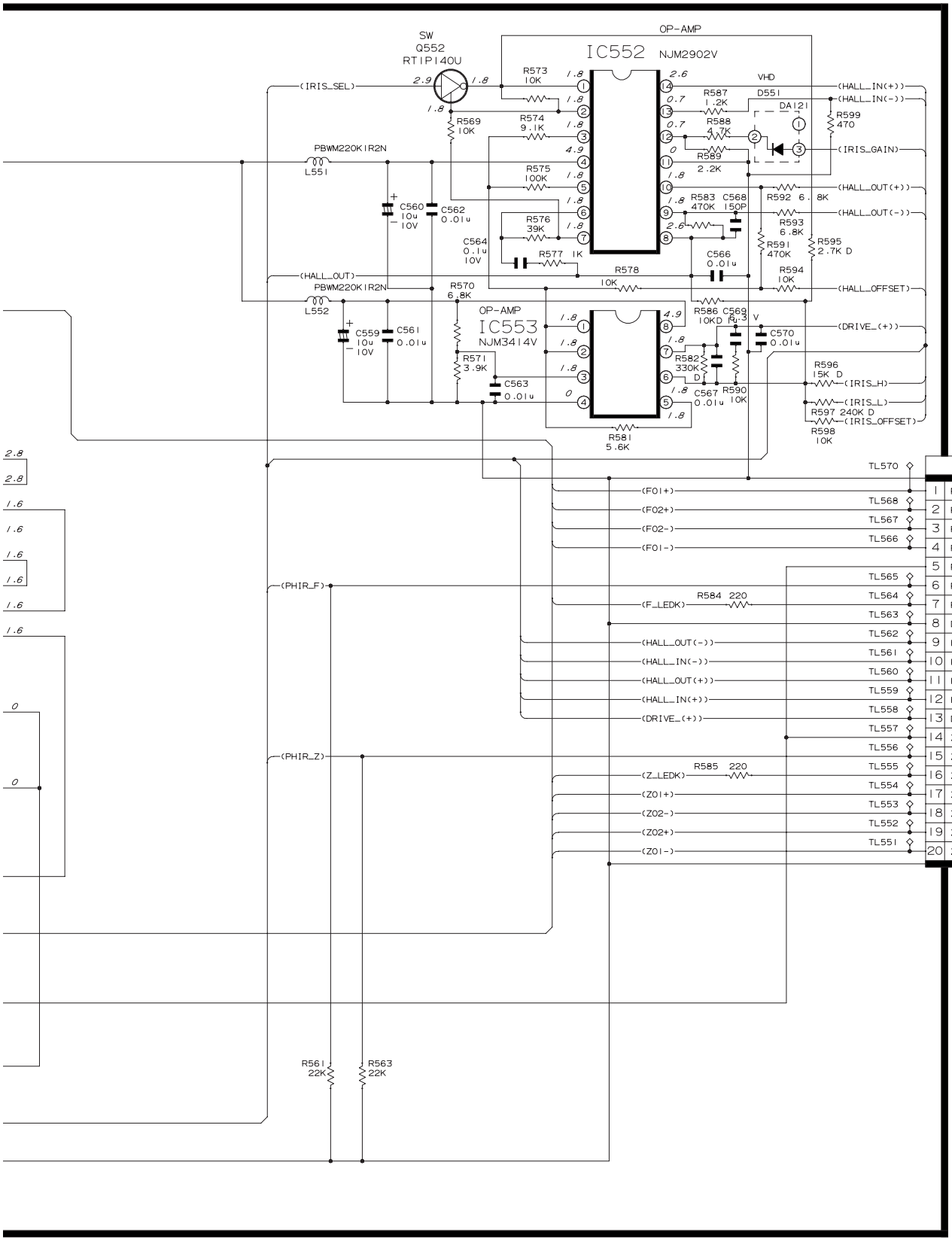


LOCATION MAP: 1 3 / 2 (4/4)



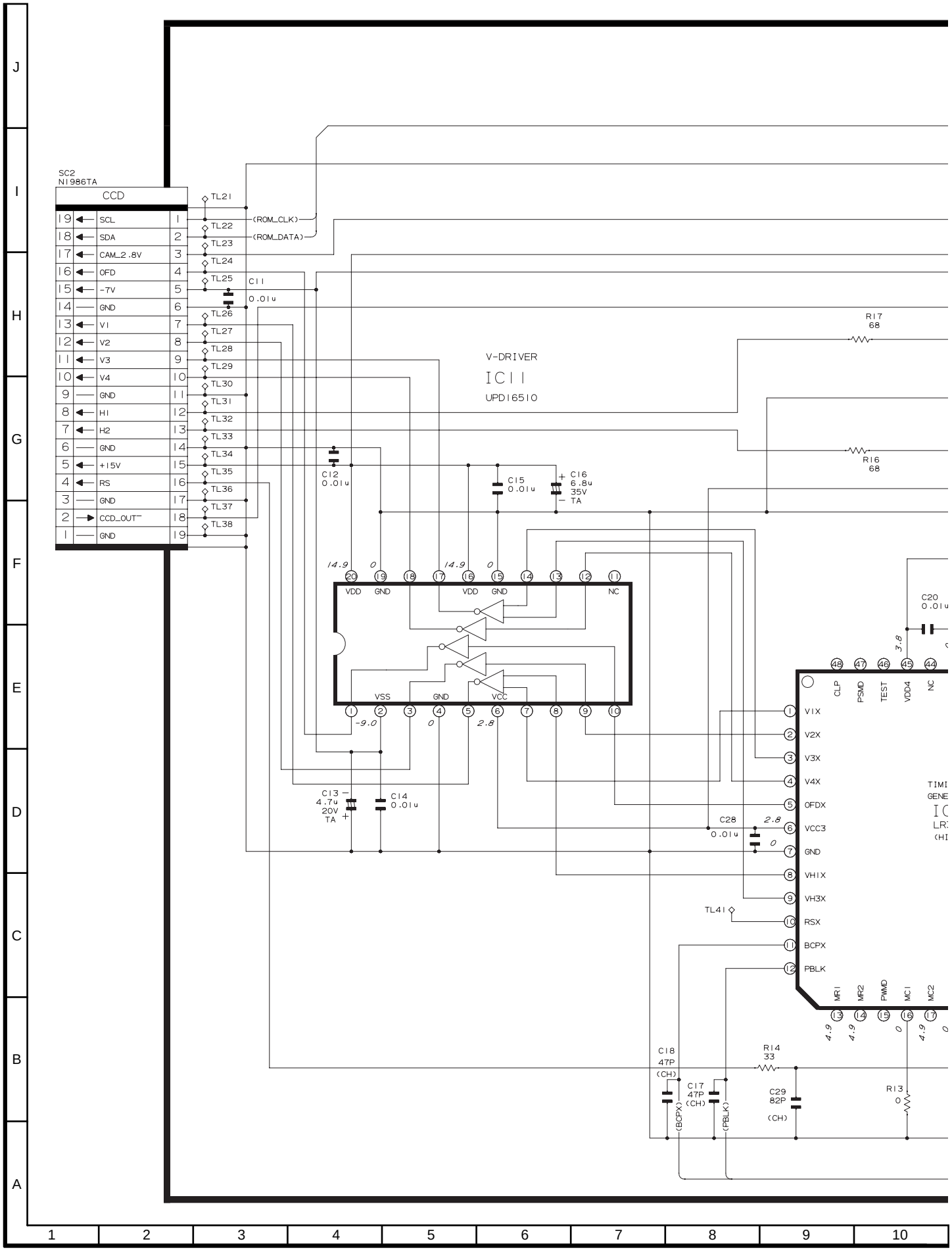
7-15. LENS DRIVE CIRCUIT SCHEMATIC DIAGRAM

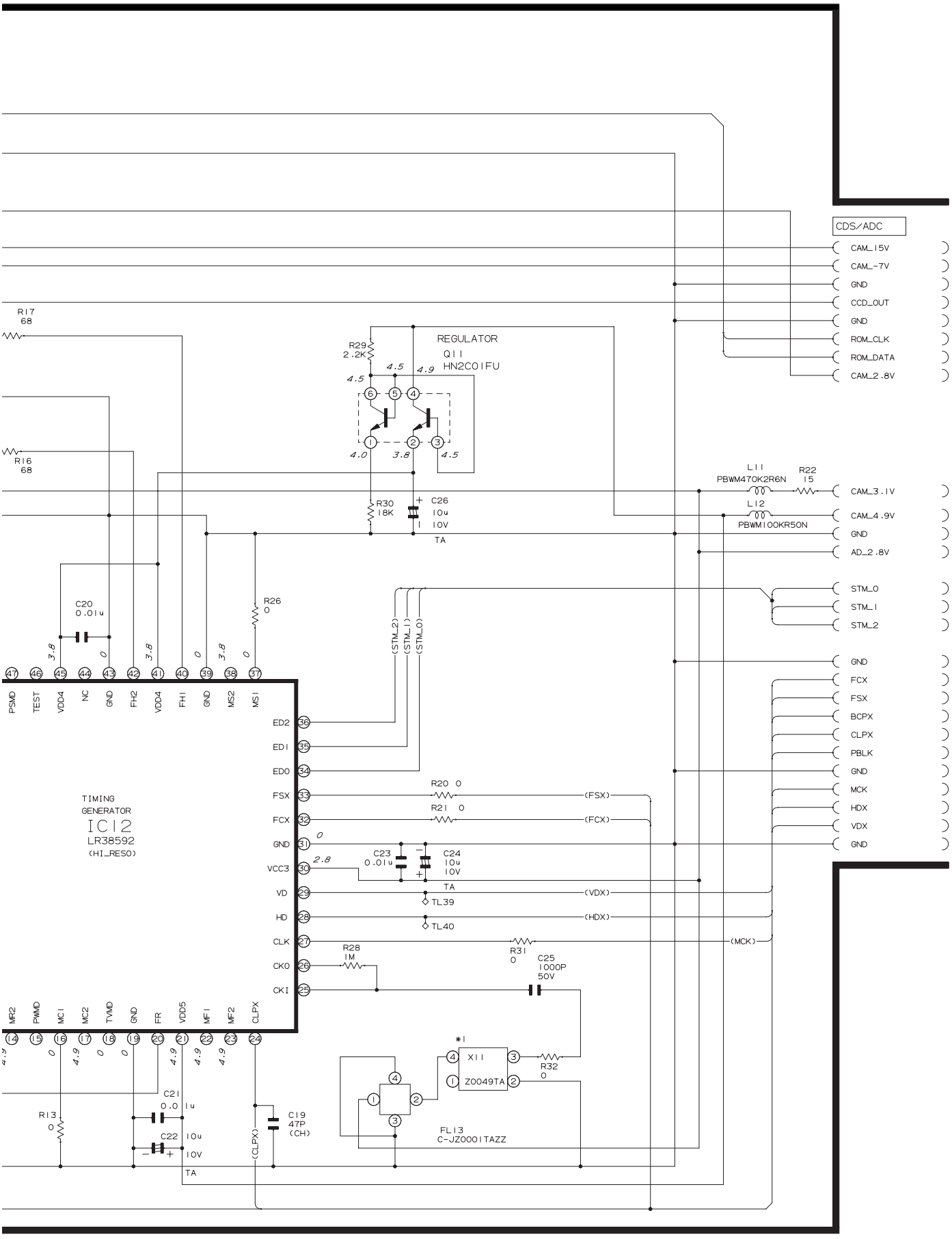




10	11	12	13	14	15	16	17	18	19

7-16. TG CIRCUIT SCHEMATIC DIAGRAM

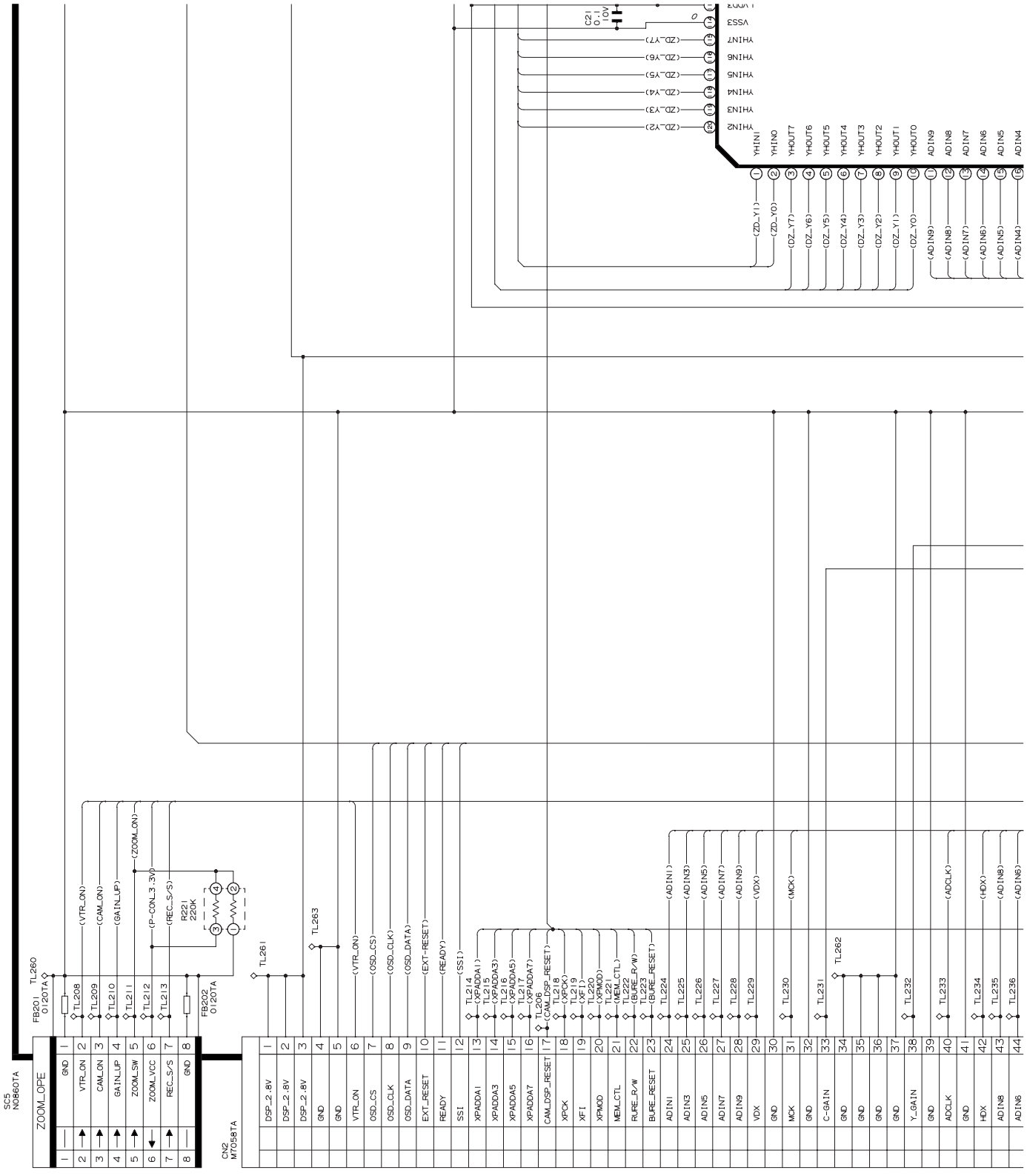




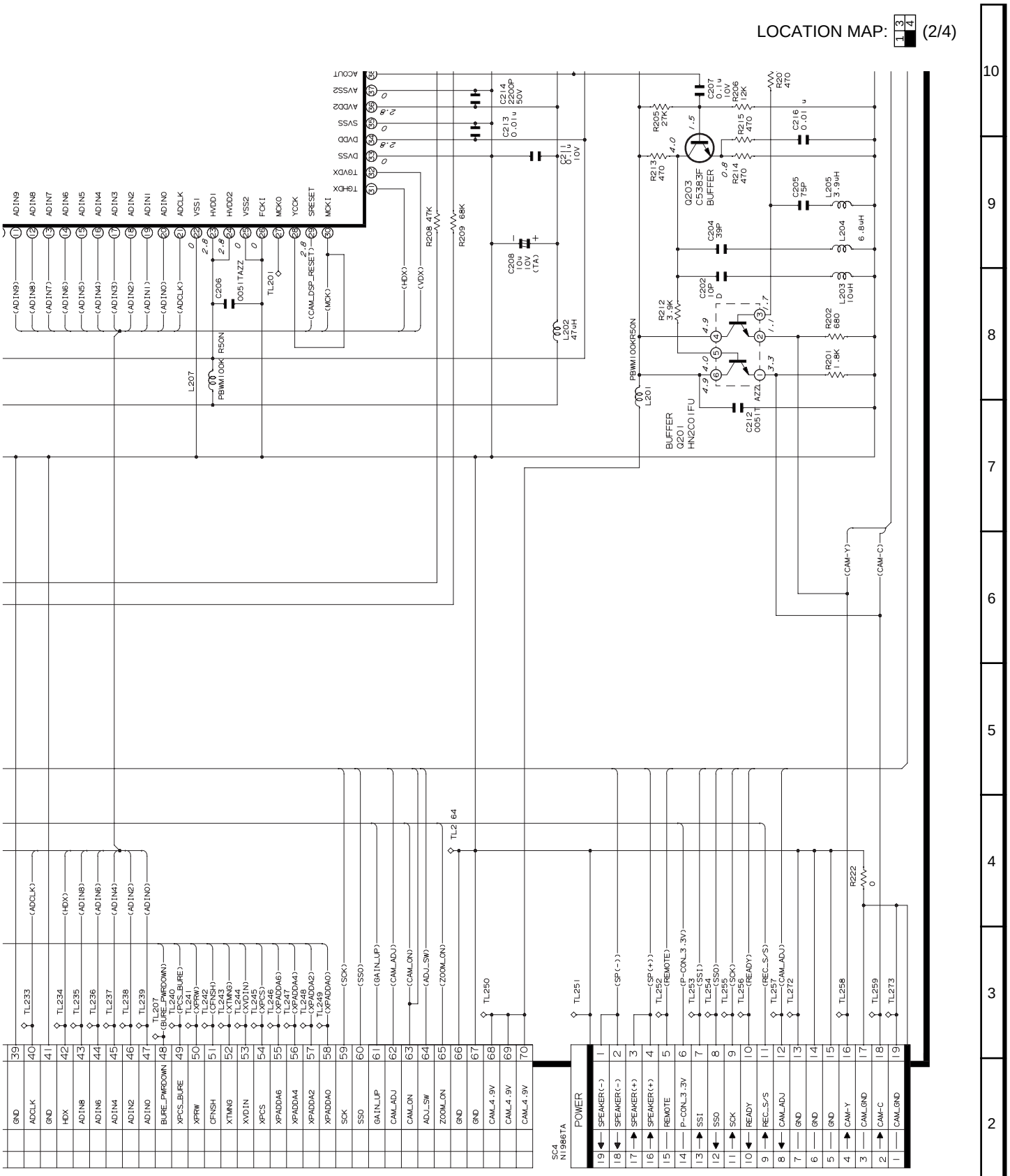
10	11	12	13	14	15	16	17	18	19

7-17. DSP CIRCUIT SCHEMATIC DIAGRAM

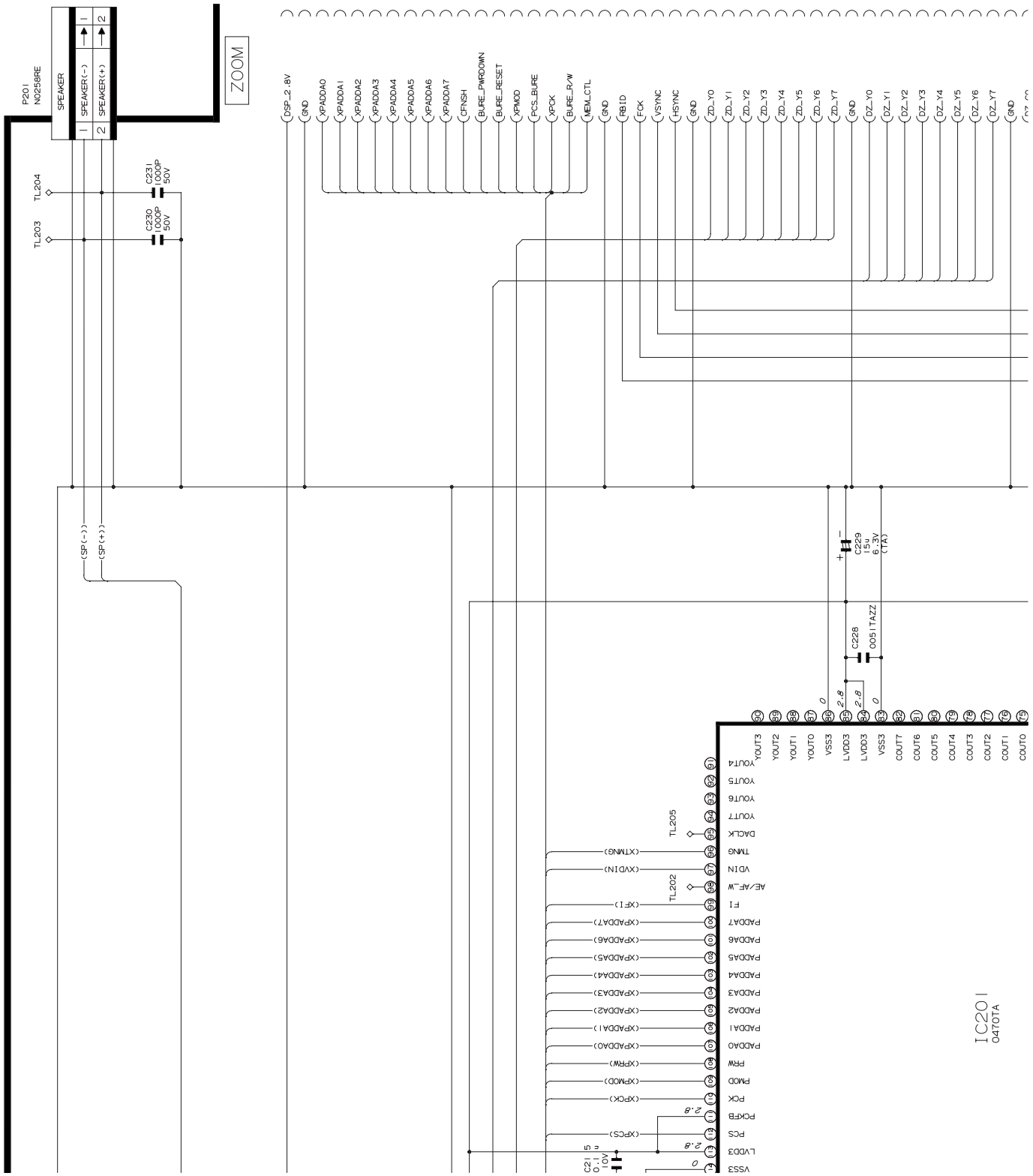
LOCATION MAP: 3 4 / 2 (1/4)



LOCATION MAP: 1 3 4 (2/4)

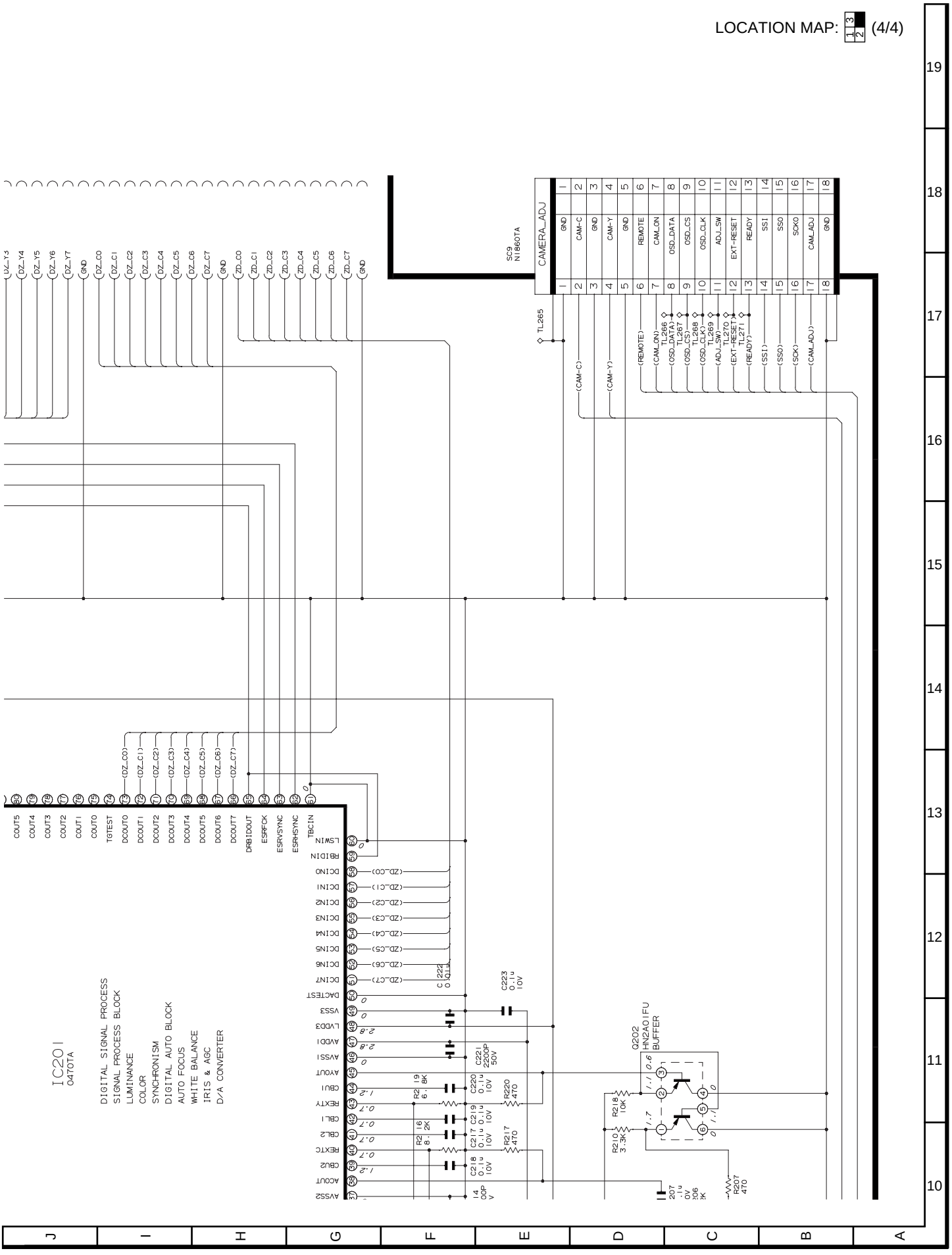


LOCATION MAP: 1 2 4 (3/4)

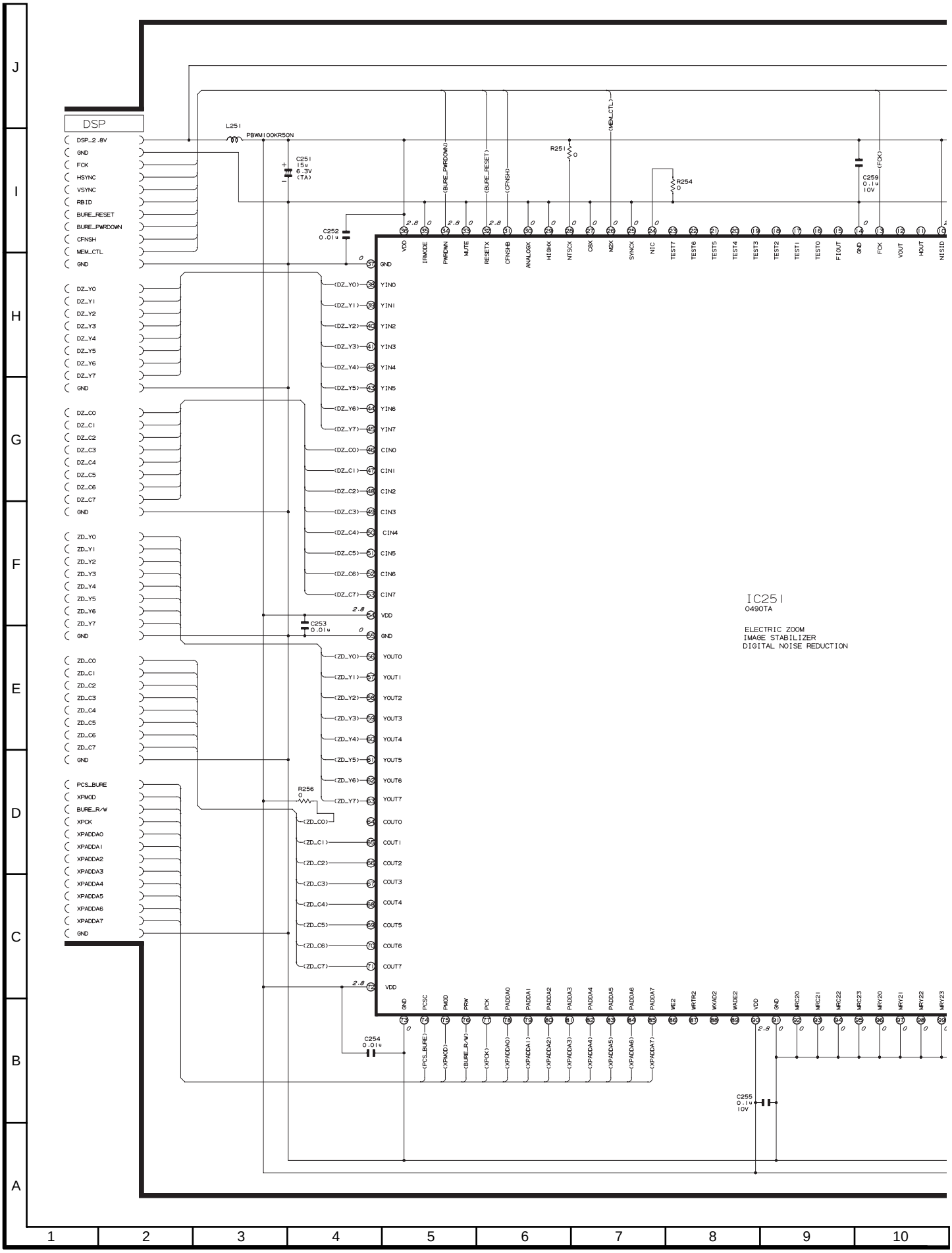


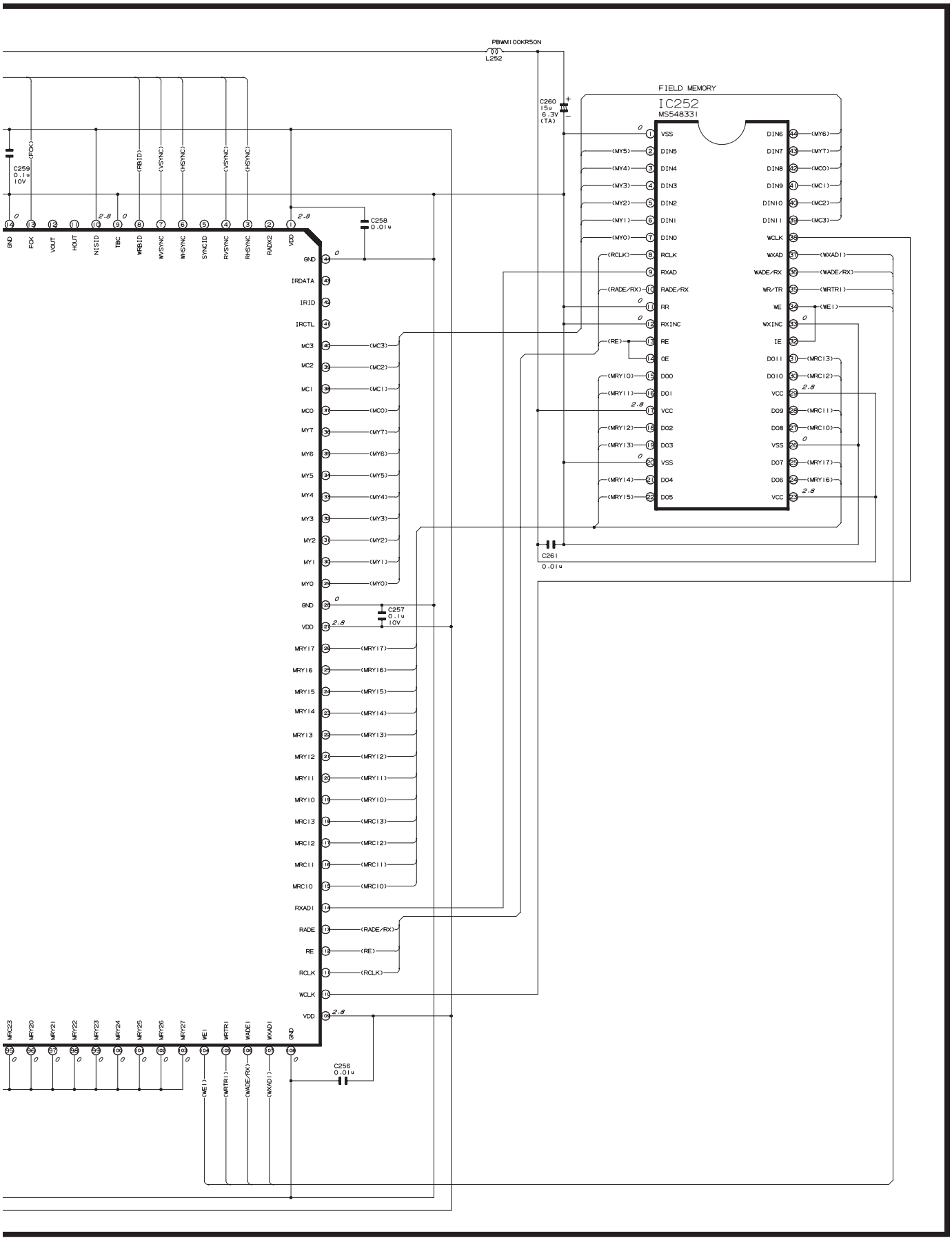
S R Q P O N M L K J

LOCATION MAP: 1 3 / 2 (4/4)



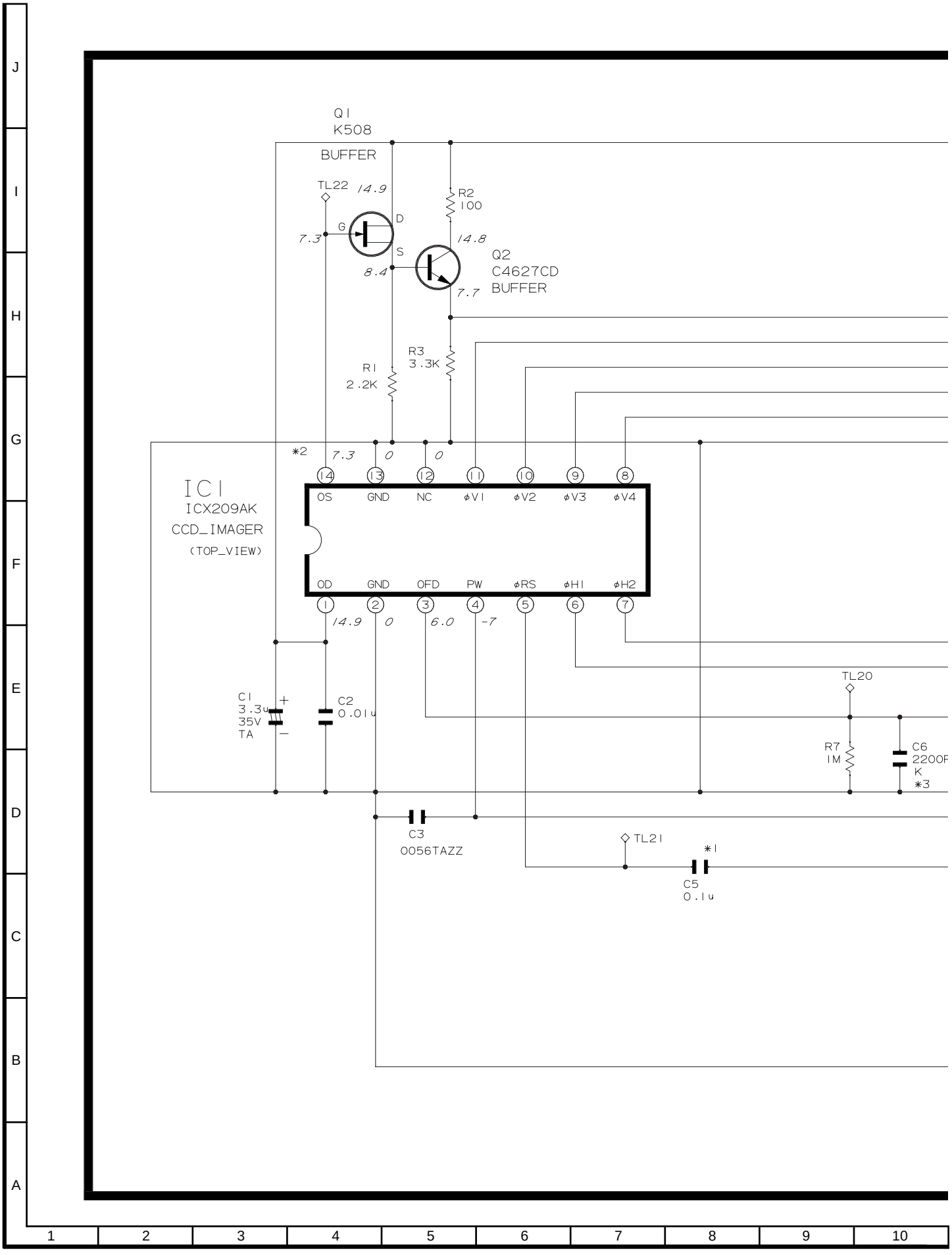
7-18. ZOOM CIRCUIT SCHEMATIC DIAGRAM

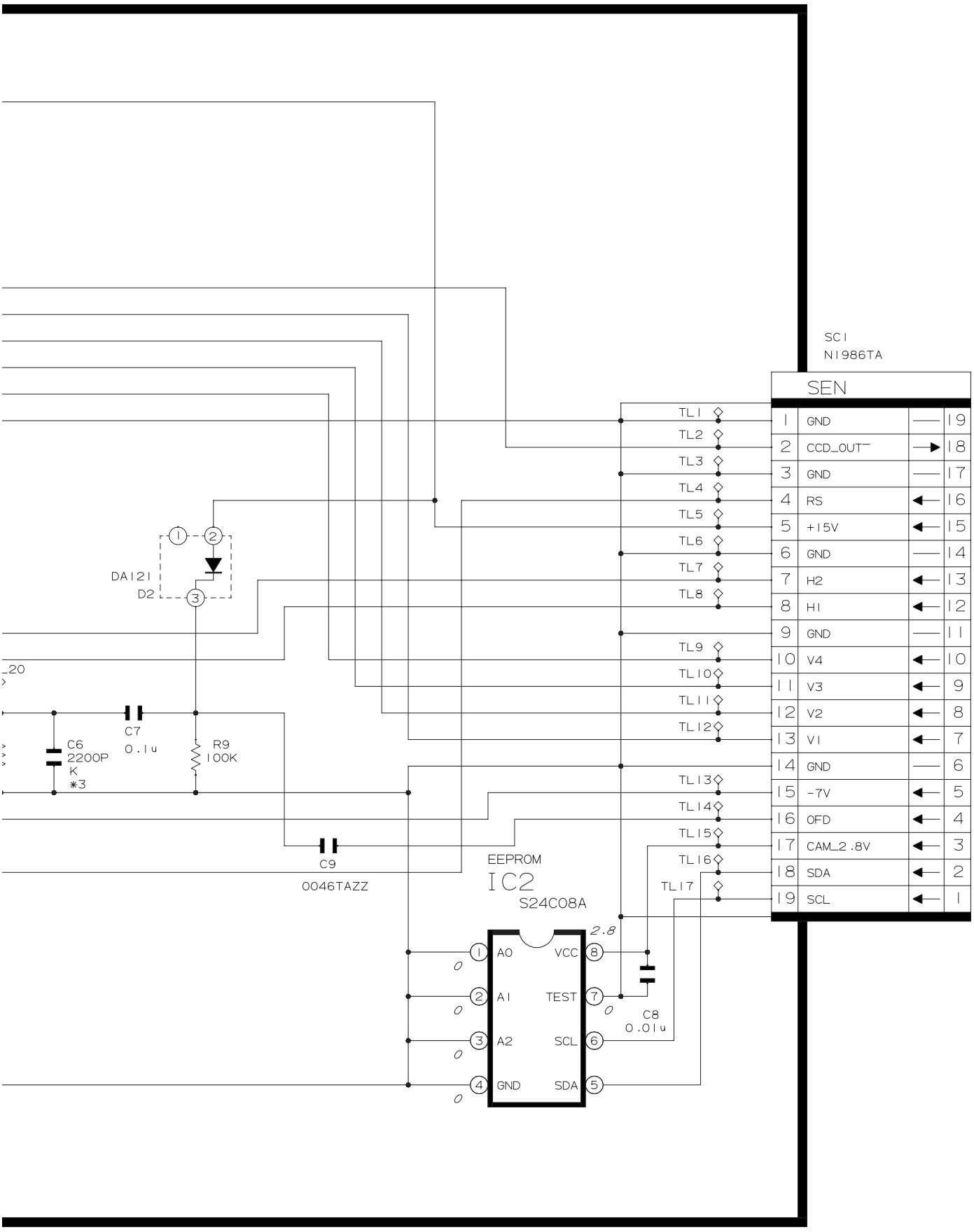




10	11	12	13	14	15	16	17	18	19

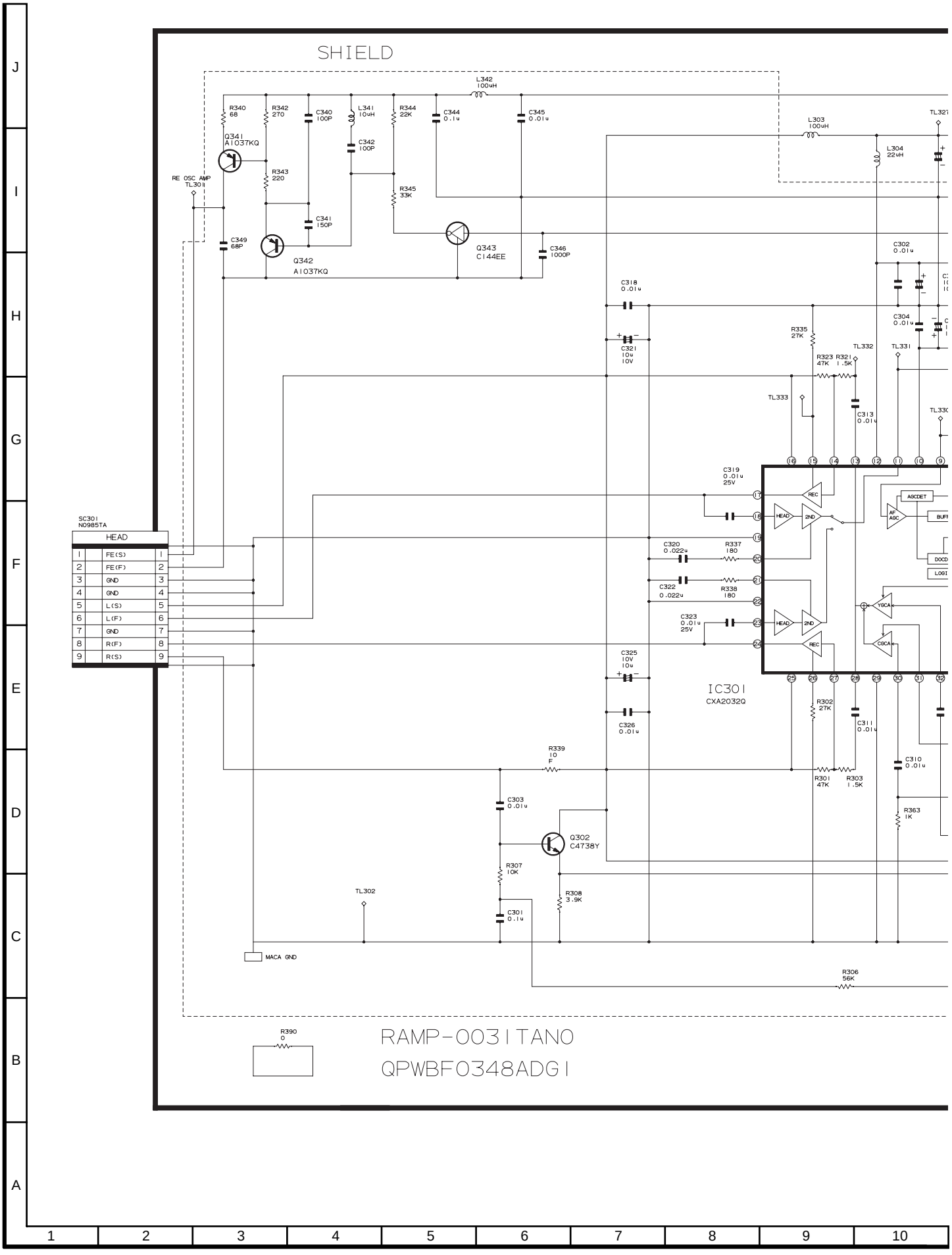
7-19. CCD CIRCUIT SCHEMATIC DIAGRAM

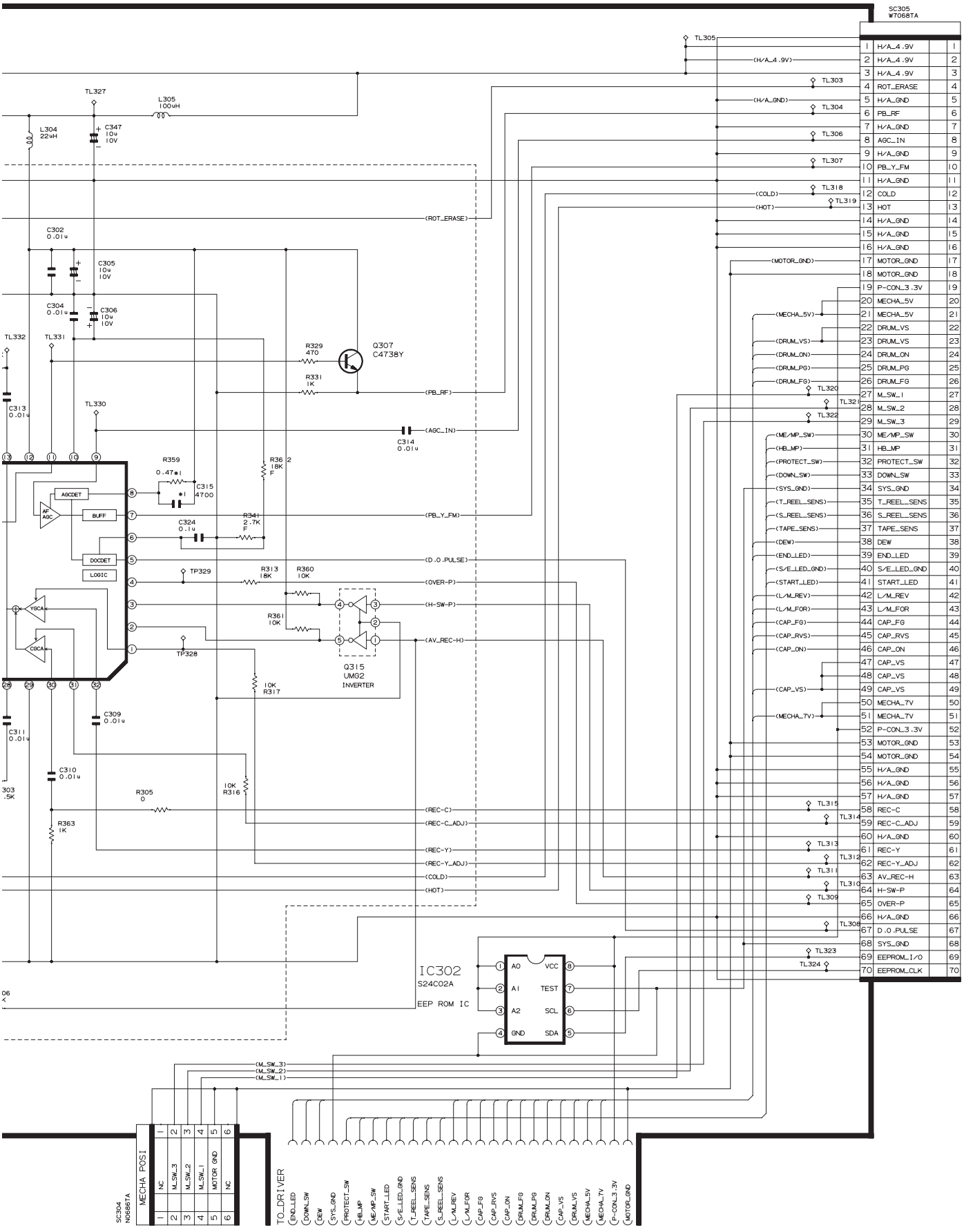




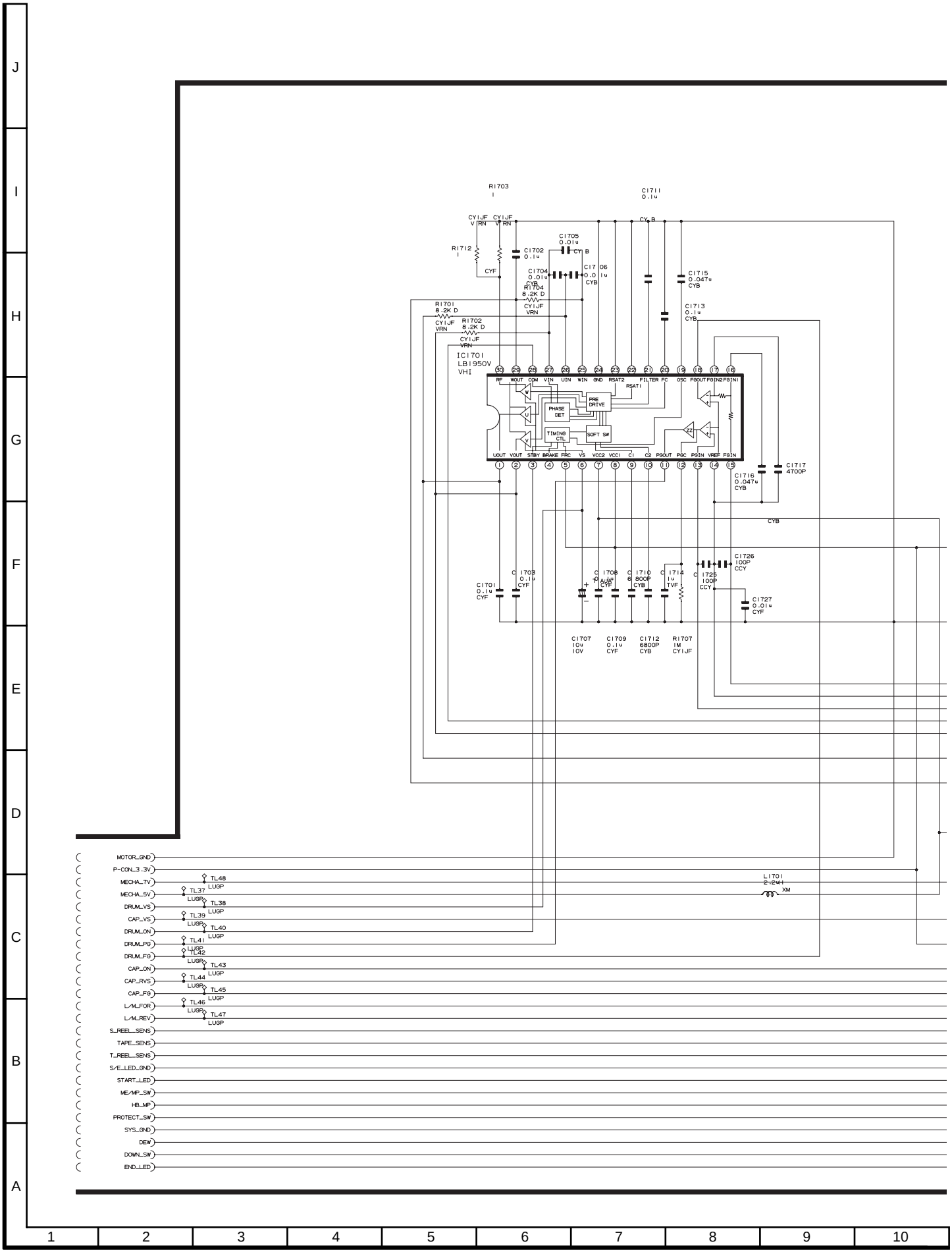
10	11	12	13	14	15	16	17	18	19

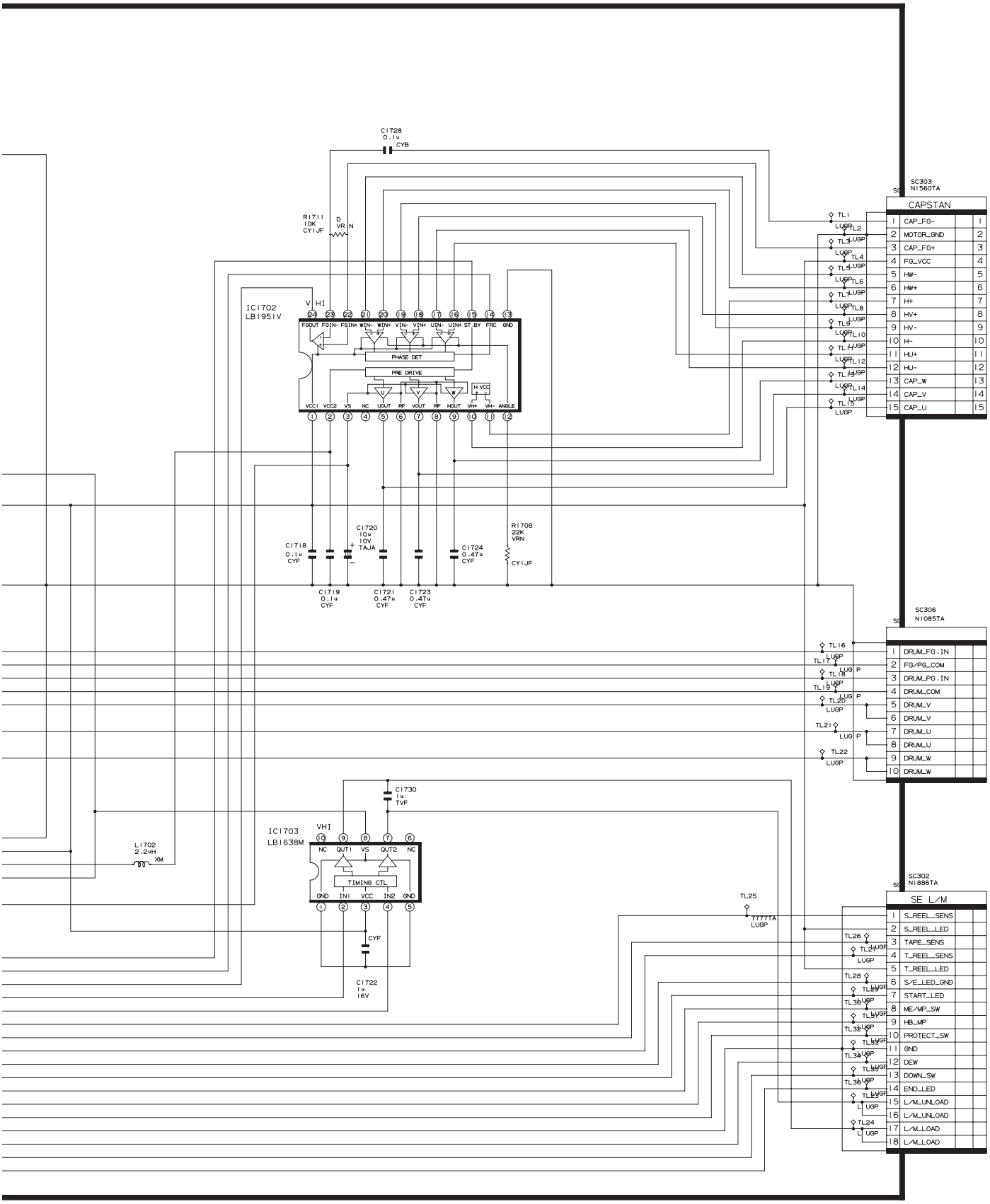
7-20. HEAD AMP CIRCUIT SCHEMATIC DIAGRAM




SC305
W7068TA
TL305
H/A_4.9V
H/A_GND
ROT_ERASE
PB_RF
AGC_IN
PB_Y_FM
D.O.PULSE
OVER-P
H-SW-P
AV_REC-H
REC-C
REC-C_ADJ
REC-Y
REC-Y_ADJ
COLD
HOT
MOTOR_GND
P-CON_3.3V
MECHA_5V
DRUM_VS
DRUM_ON
DRUM_PG
DRUM_FG
M_SW_1
M_SW_2
M_SW_3
ME/MP_SW
HB_MP
PROTECT_SW
DOWN_SW
SYS_GND
T_REEL_SENS
S_REEL_SENS
TAPE_SENS
DEW
END_LED
S/E_LED_GND
START_LED
L/ML_REV
L/ML_FOR
CAP_FG
CAP_RVS
CAP_ON
CAP_VS
MECHA_7V
EEPROM_I/O
EEPROM_CLK
Q307
C4738Y
Q315
UMG2
INVERTER
IC302
S24C02A
EEP ROM IC
A0
A1
A2
GND
VCC
TEST
SCL
SDA
AGCDET
BUFF
DOCDET
LOGIC
Y8CA
C8CA
TO_DRIVER
MECHA POSI
SC304
NC068TA

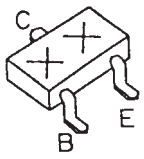
7-21. MOTOR DRIVE CIRCUIT SCHEMATIC DIAGRAM





10	11	12	13	14	15	16	17	18	19

8. SEMICONDUCTOR LEAD IDENTIFICATION



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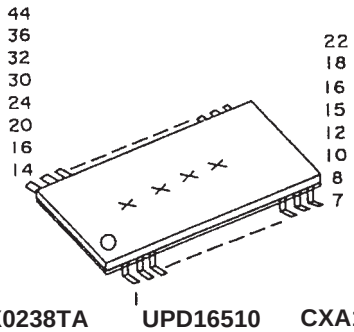
2SA1774F	DTC323TK	2SC5383F
2SA1832Y	RN2104	2SC5384C
2SB12956	2SD1328-S	RT1P141U
2SC4555	2SA1037KQ	RT1P241U
2SC4738	DTA114EE	RT1P441U
2SC3931C	UN9213	RT1N141U
2SD2216	UN9113	RT1N241U
DTA144EE	DTC123EE	RT1N441U
2SC4627C	UN9110	RT1P140U
2SC4617B	DTA114TE	2SA1362GR



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M62352GP	NJU4066V	BA7785FS
MC14053V	LB1843V	BU2092FV
MB3775FV	MM1433	CXA2096N
M52374VP	MB3788FV	MS548331
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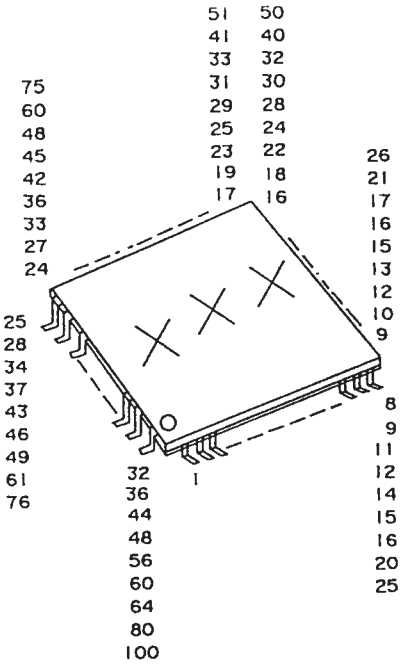

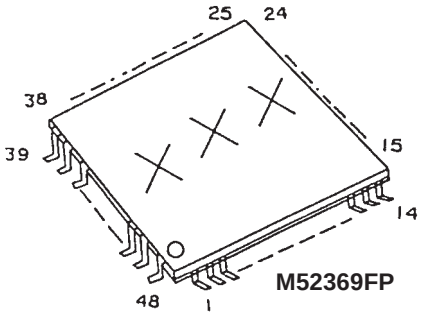

M52369FP

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2SB1132Q		
2SB1302S		
2SB1123T		
SB20W03P		
2SK2316		

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IX0437TA	LA7458W	MM1298XQ
IR3Y29AM	IX0452TA	CXA2503A
IX0470TA	BA9732KV	CXA2083R
IX0490TA	LR38590	CXA2085R
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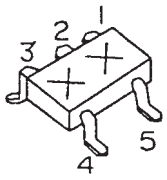

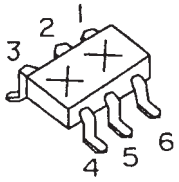

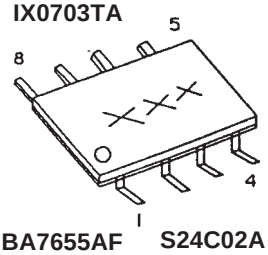

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SC7S08F	RN2703	
UMC5	RN2704	
XP1B301	RN1702	
	RN1703	
	RN1704	

UMD2	HN2C01FU	XP4601
UMT2	RN4982	XP6501
UMX2	RN4983	UMH2
UMZ1	RN4984	UPUMZ1
XP4111	RN4990	RN2904
HN1B01FU	RN2902	RN1902
HN1A01FU	RN2903	RN1903
HN2A01FU	XP4113	RN1904
HN1C01FU	XP4213	

BA7655AF	S24C02A	TC7W08U
ST93C46T	S24C08A	NJM2233V
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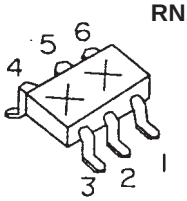

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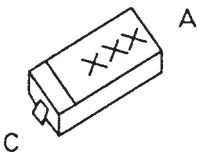

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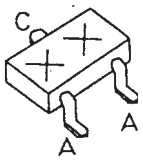

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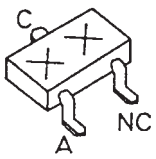

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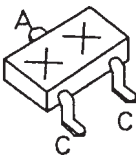

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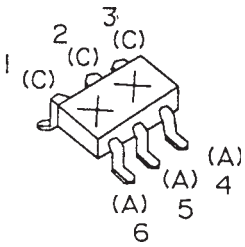

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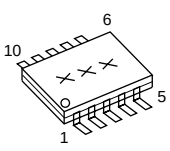

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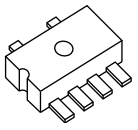

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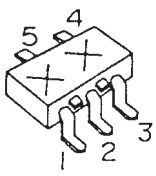

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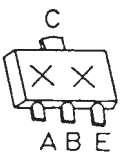

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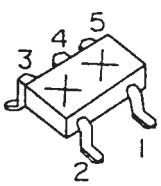
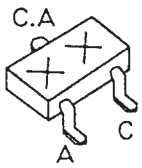


FMY1

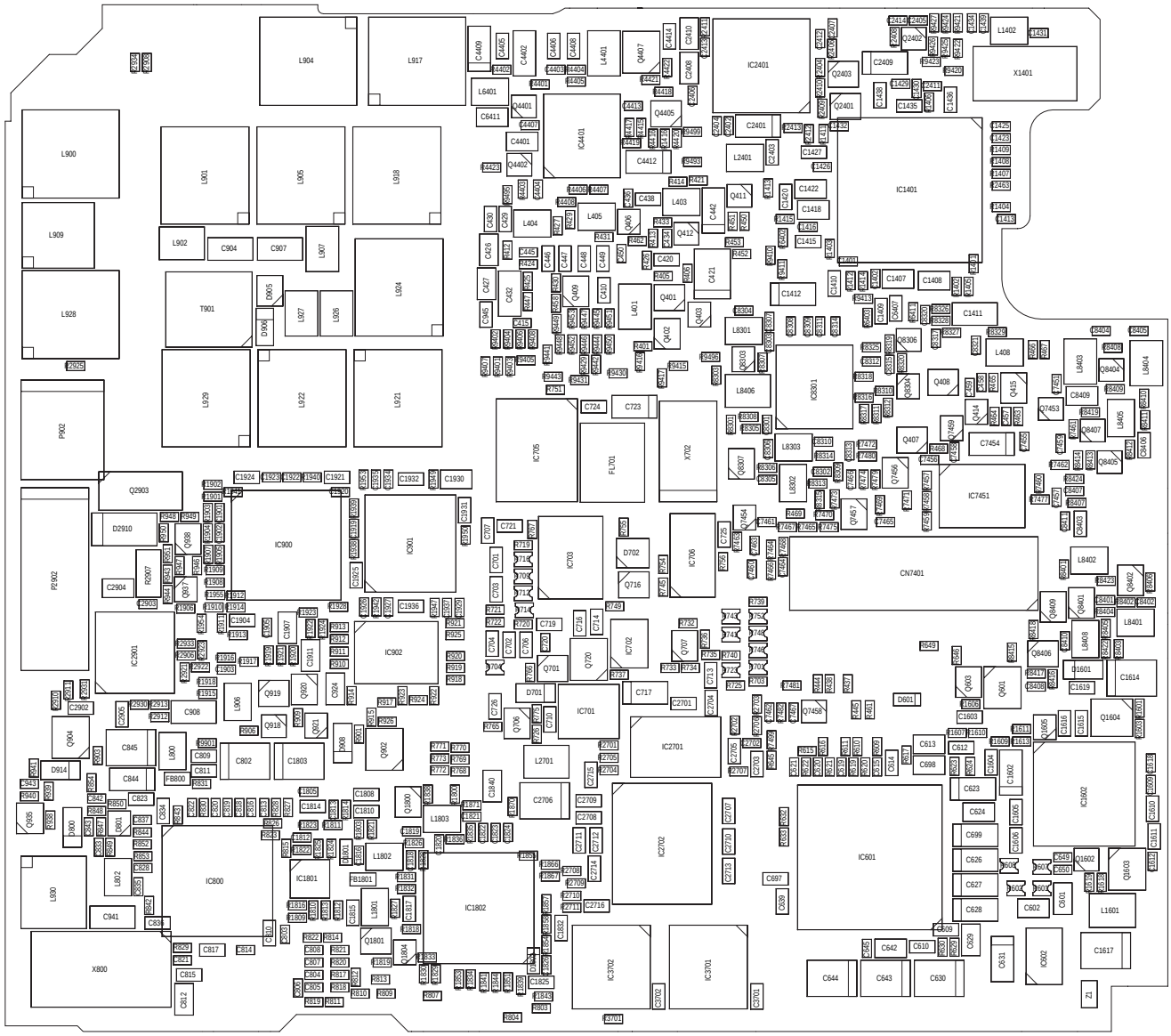


MA133
MA147

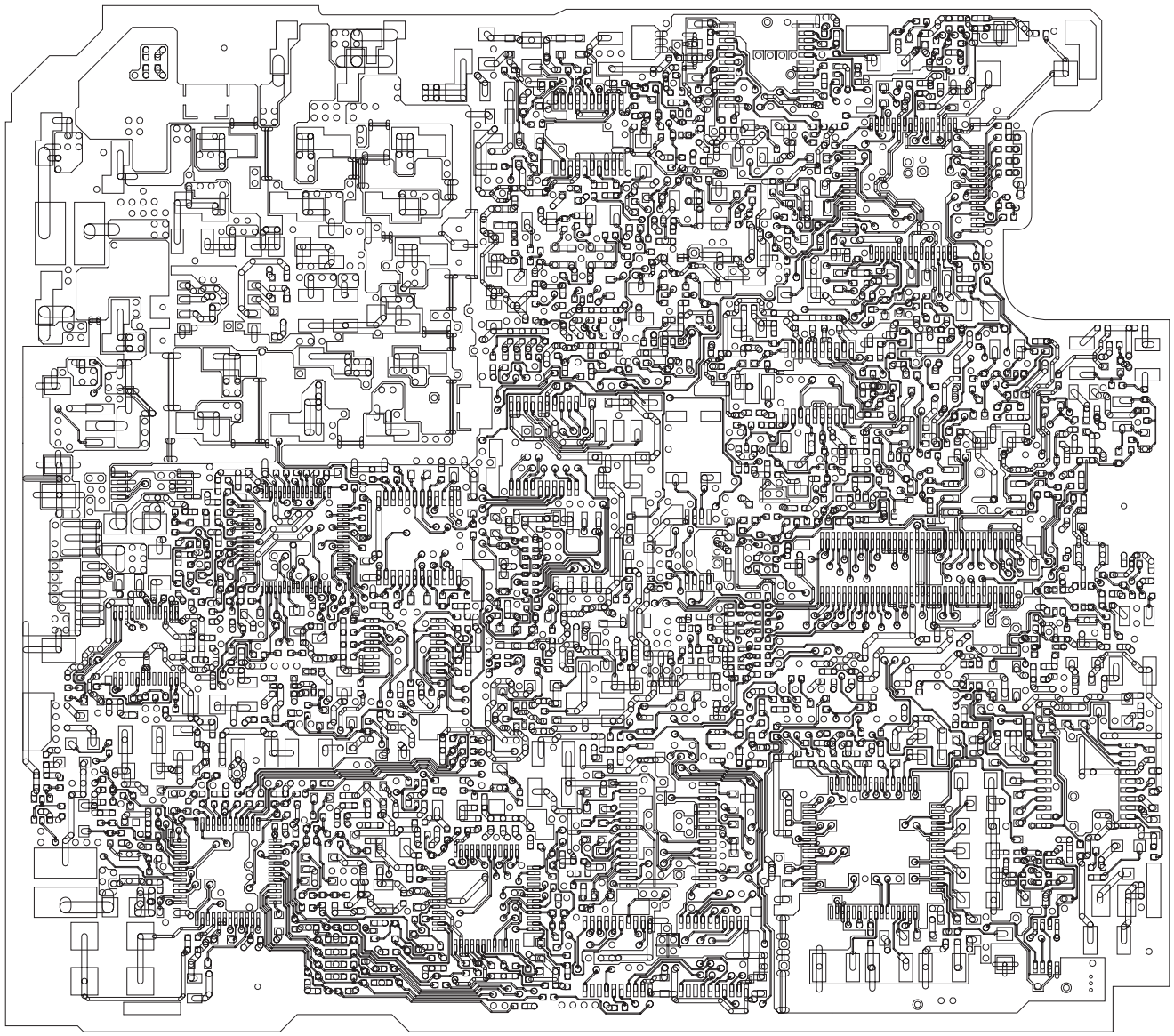
9. PRINTED WIRING BOARD ASSEMBLIES

10-1. VCR P.W.B.

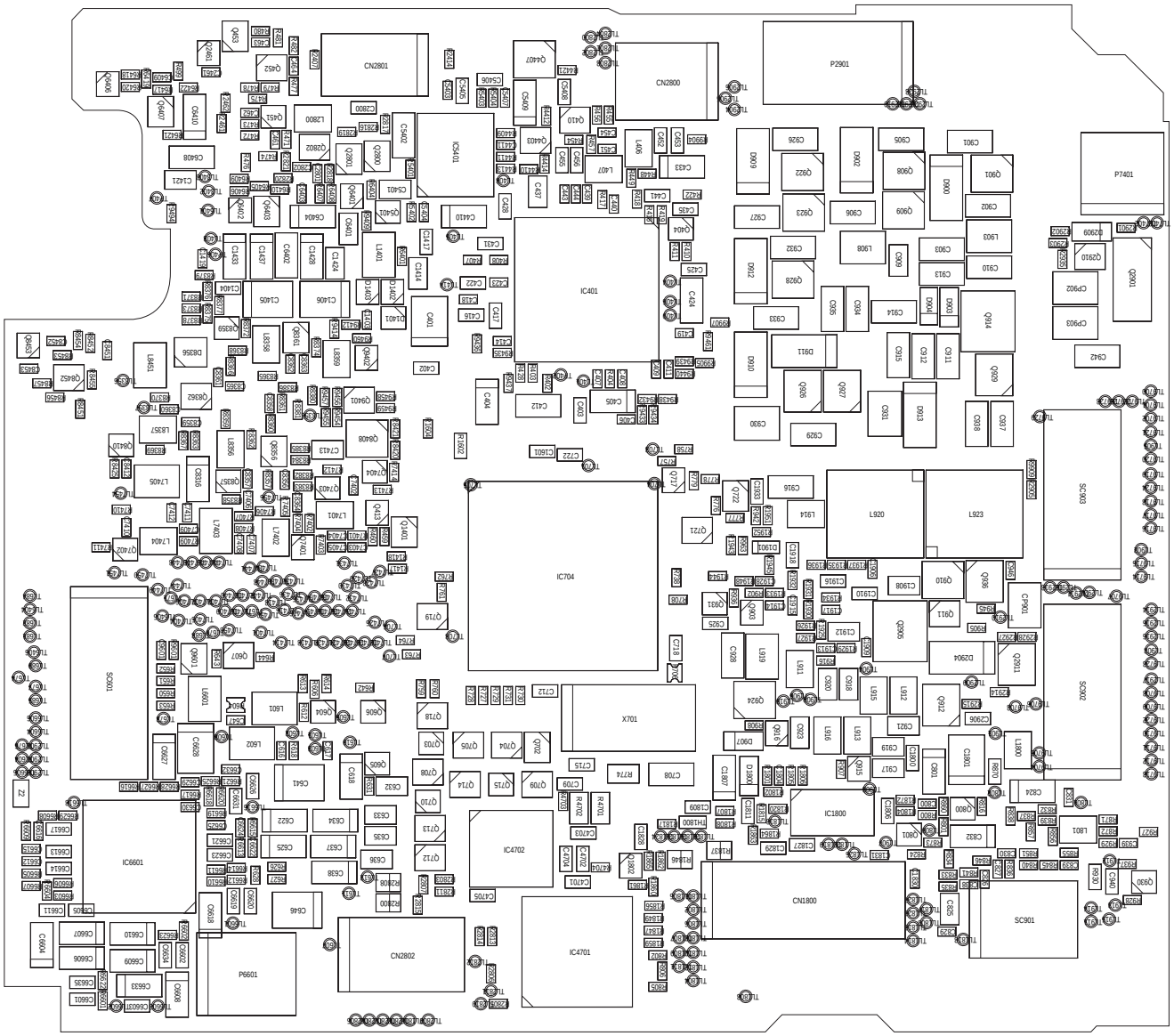
Component Side SIDE A



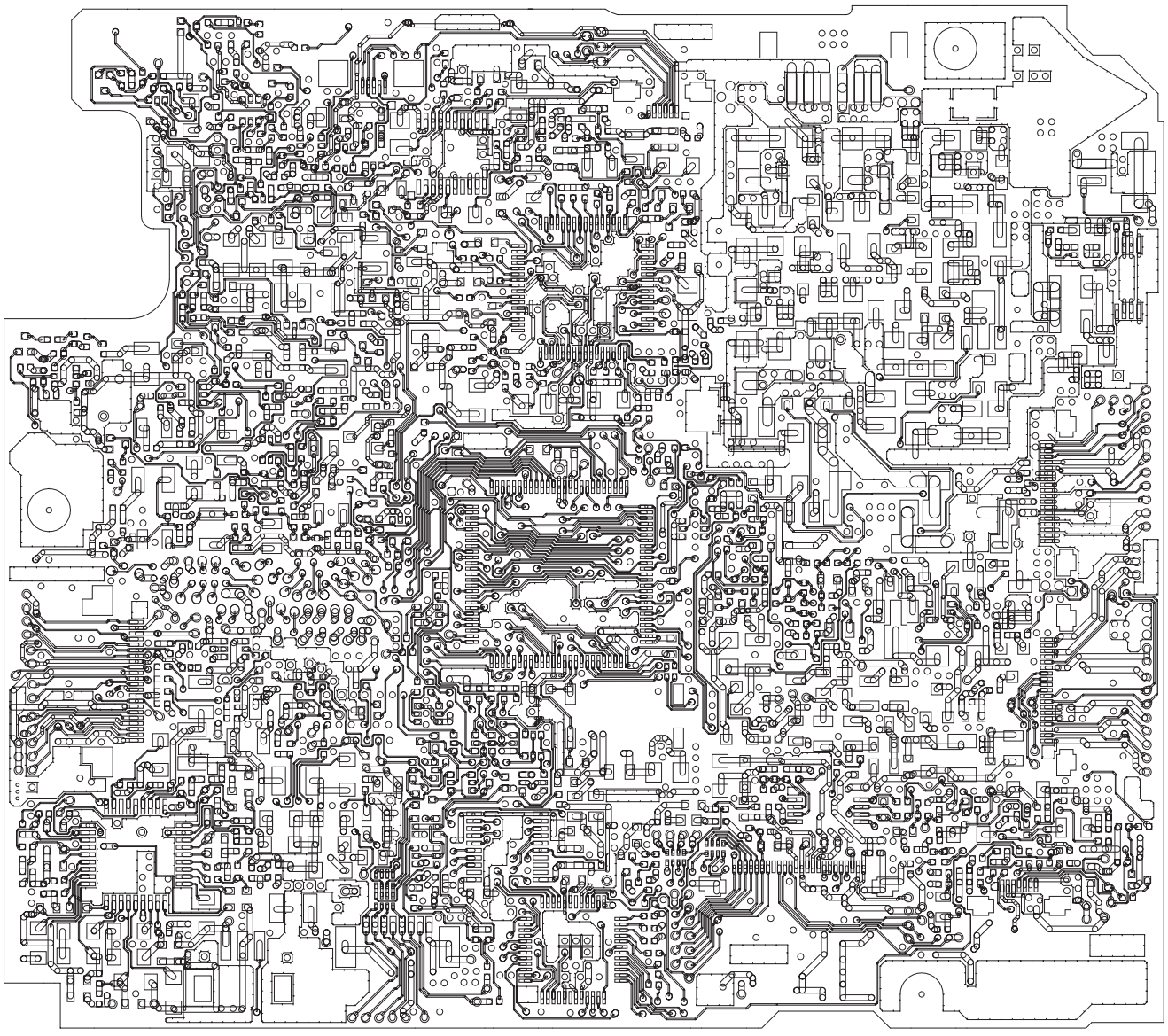
Wiring Side SIDE A



Component Side SIDE B

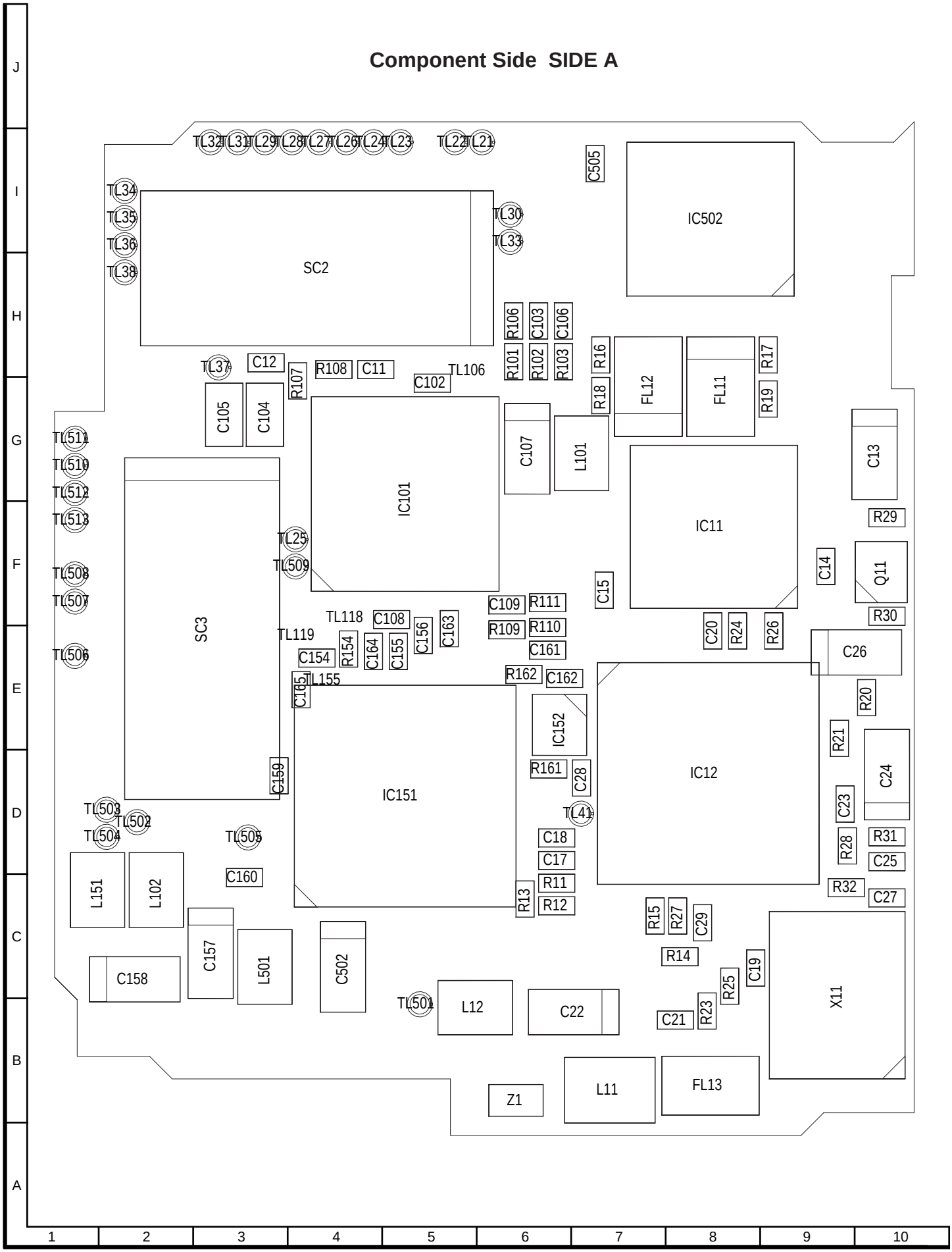


Wiring Side SIDE B

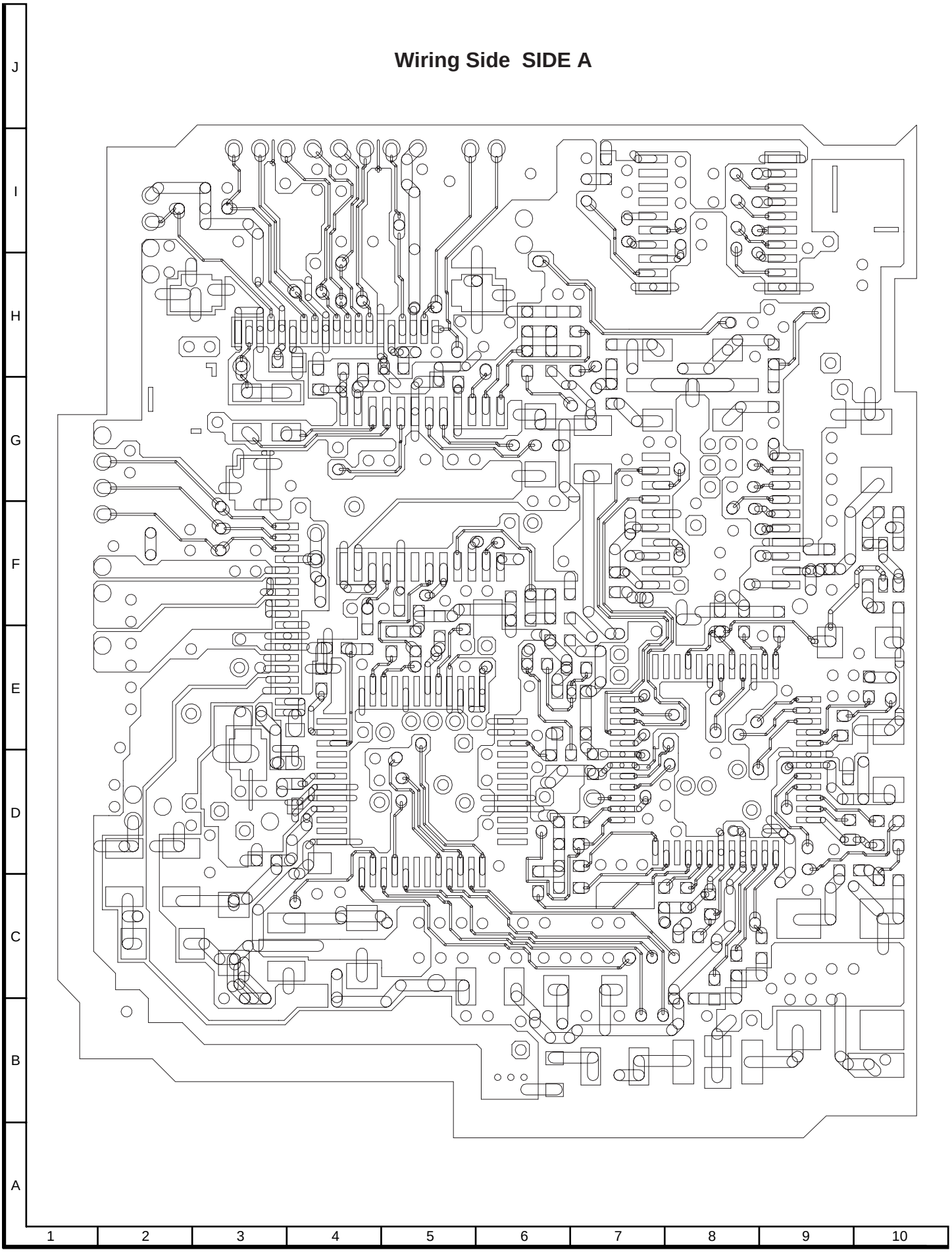


9-2. CAMERA1 P.W.B.

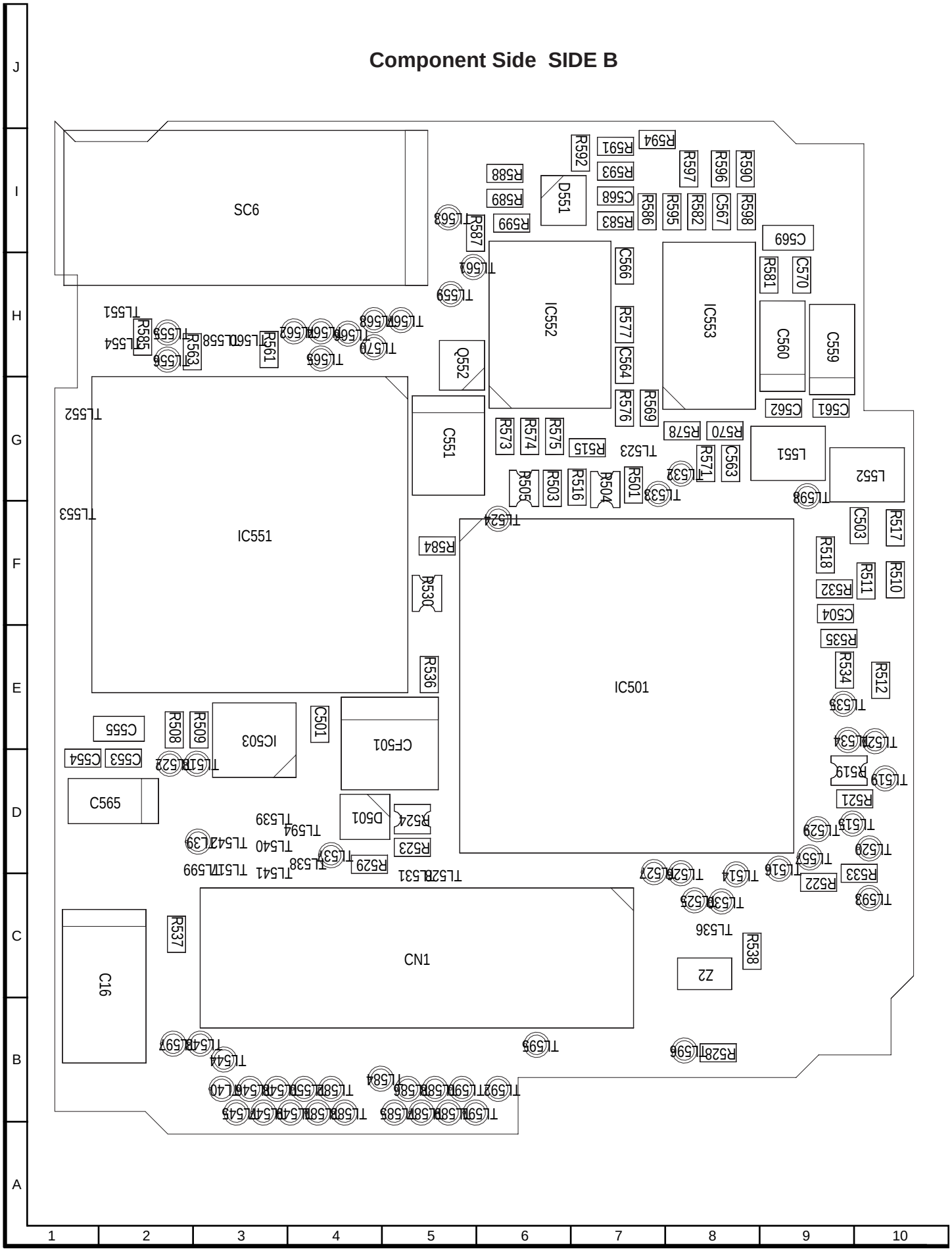
Component Side SIDE A



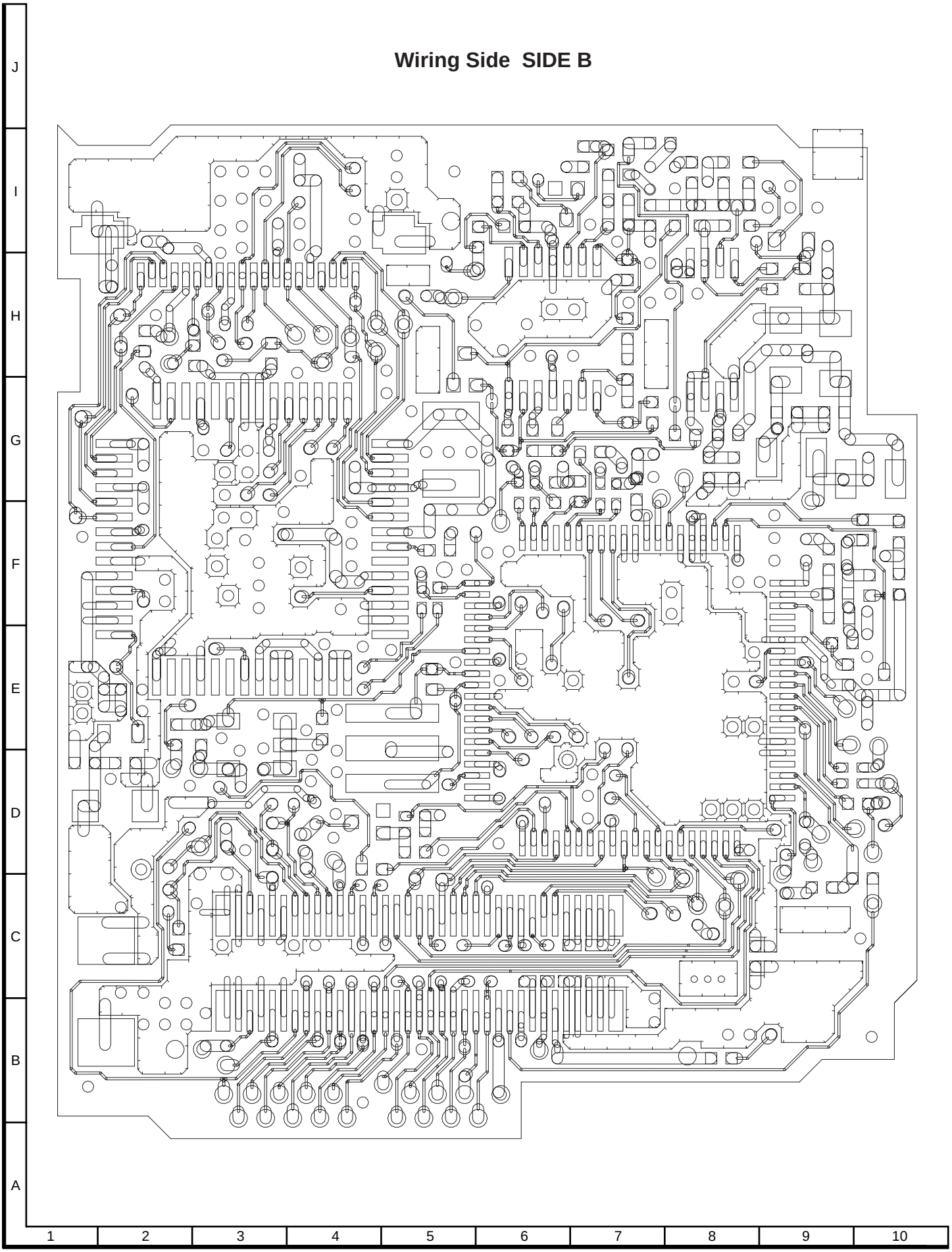
Wiring Side SIDE A



Component Side SIDE B

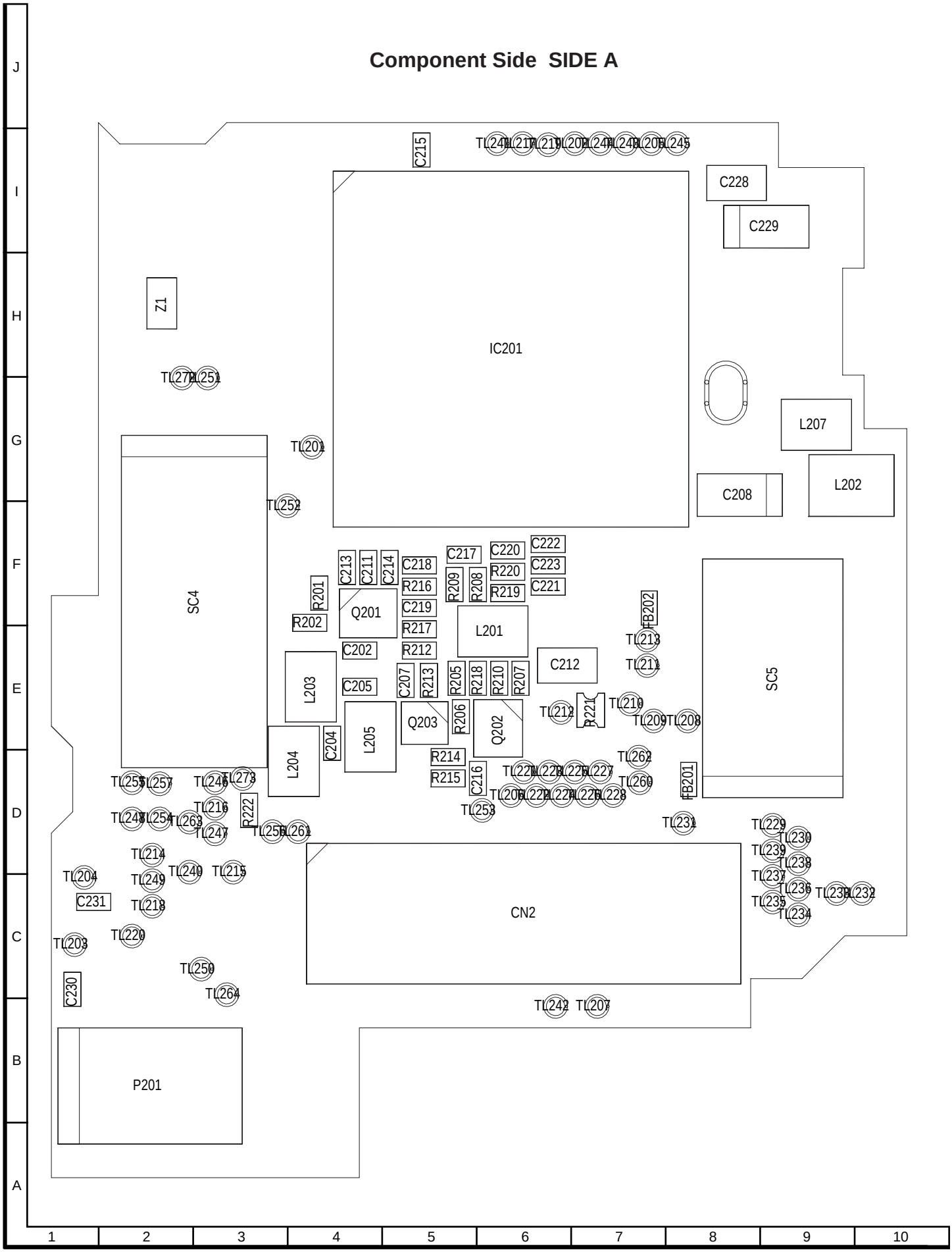


Wiring Side SIDE B

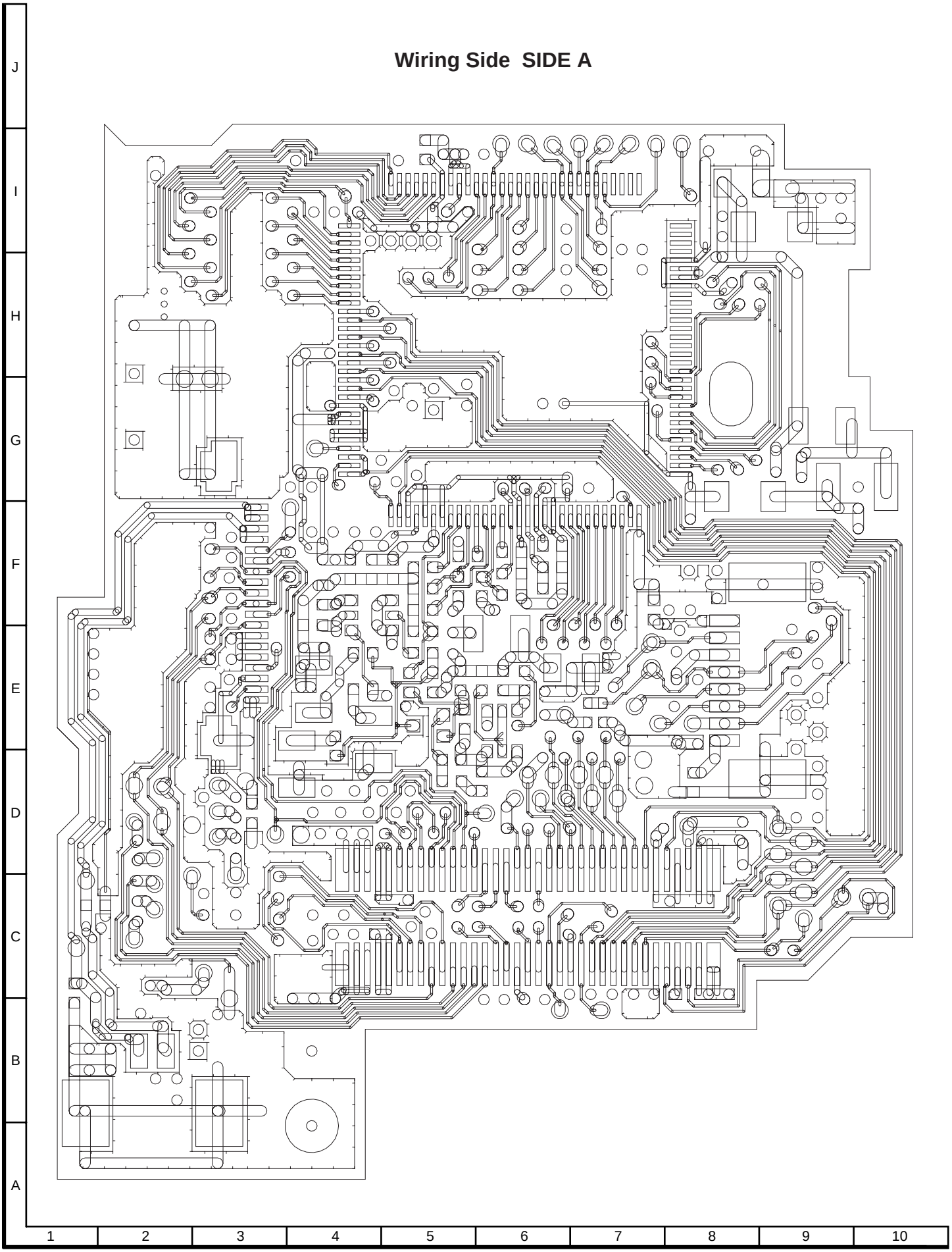


10-3. CAMERA2 P.W.B.

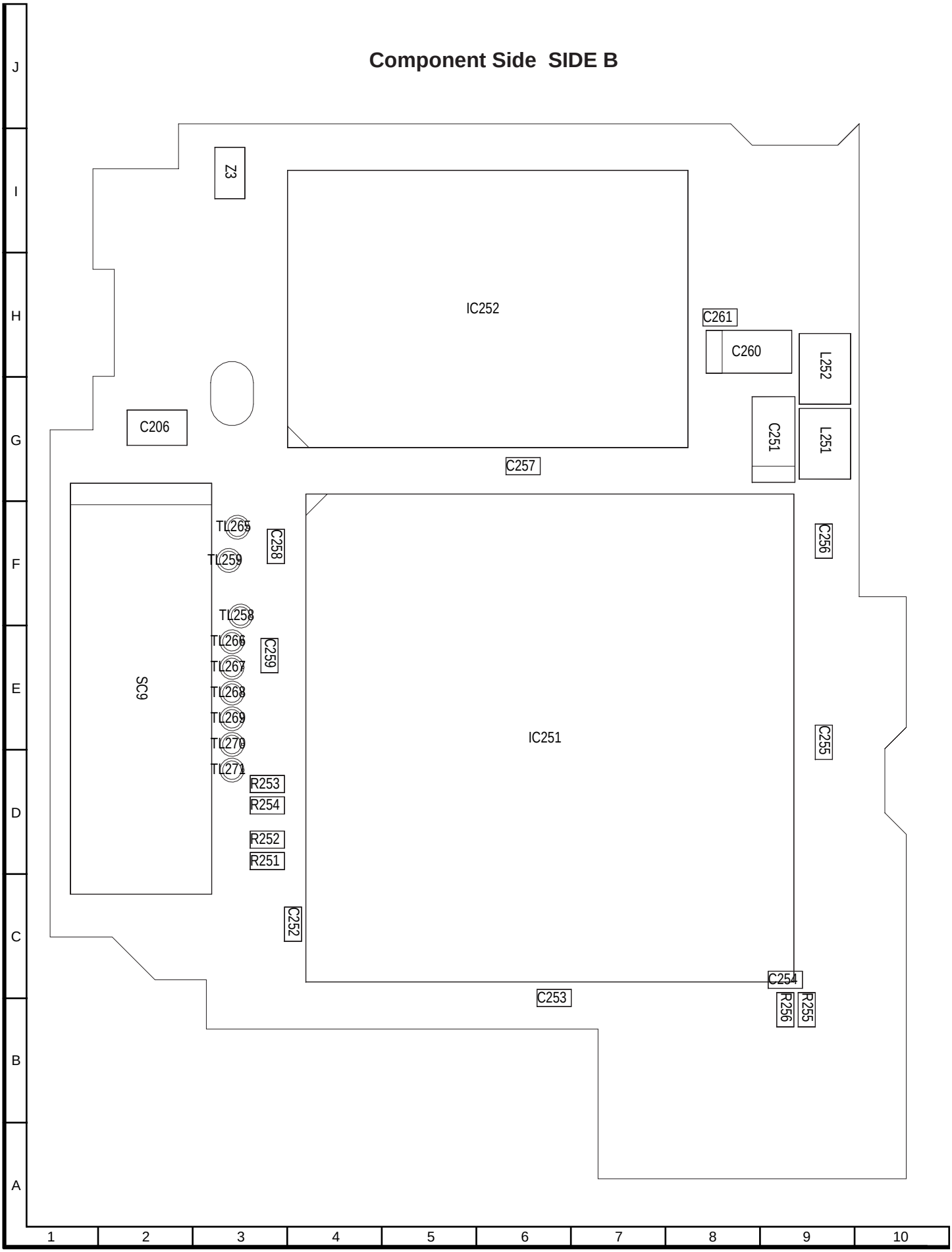
Component Side SIDE A



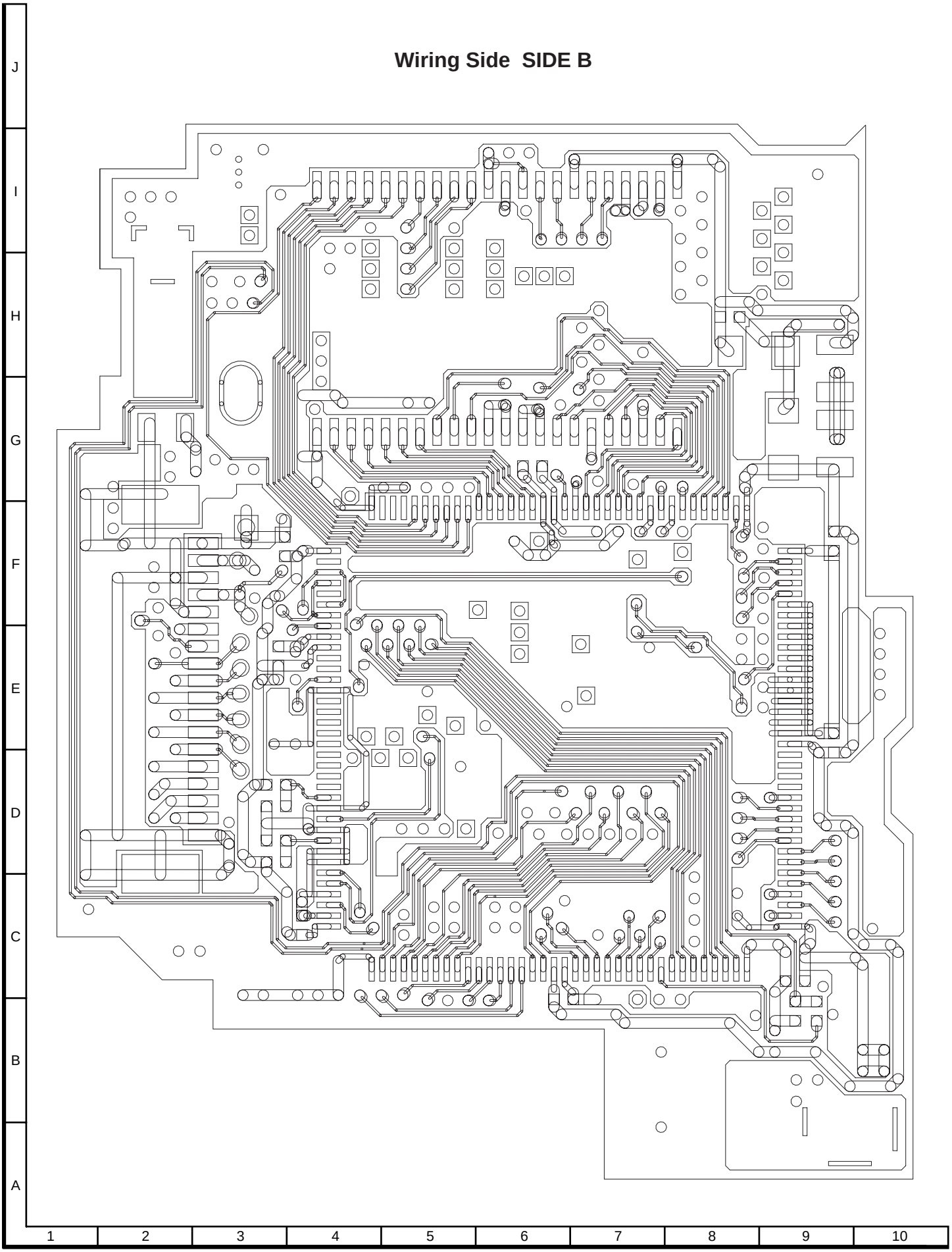
Wiring Side SIDE A



Component Side SIDE B

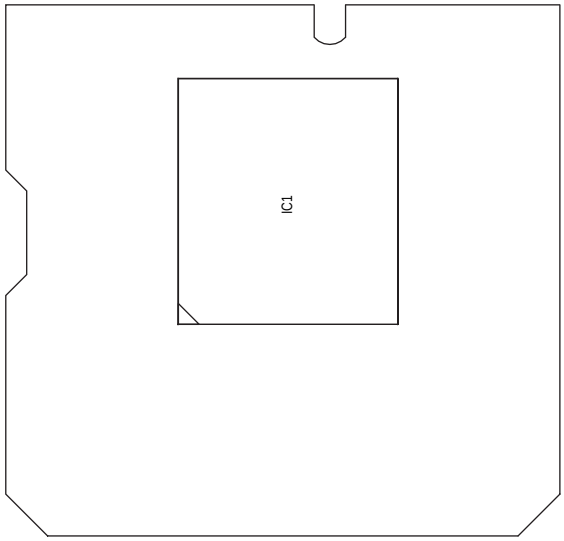


Wiring Side SIDE B

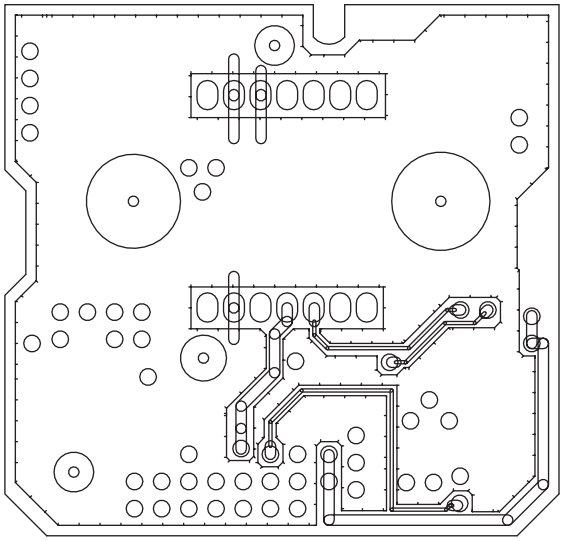


9-4. CCD P.W.B.

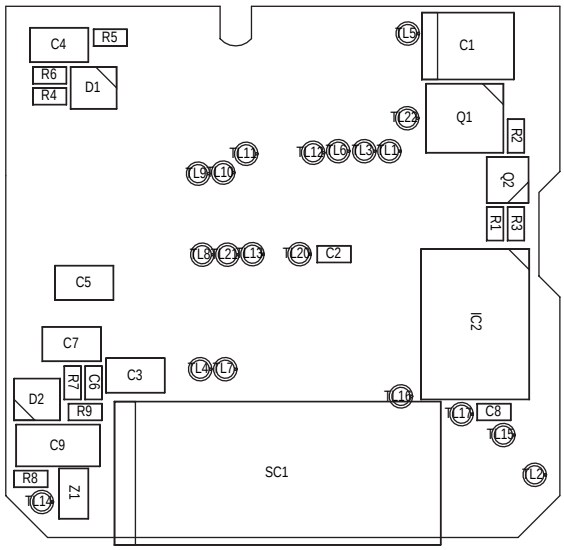
Component Side SIDE A



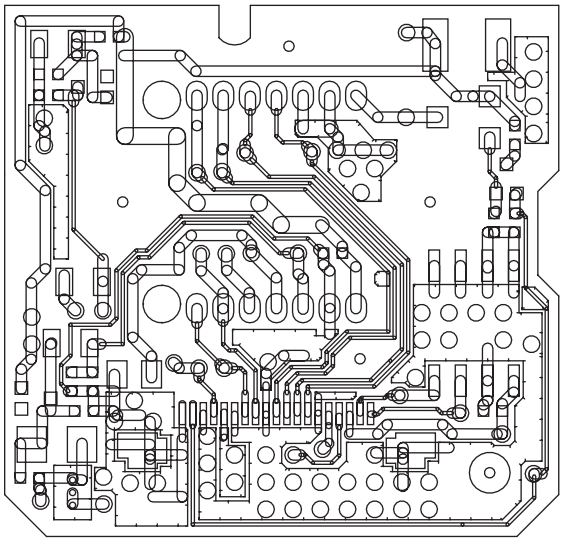
Wiring Side SIDE A



Component Side SIDE B

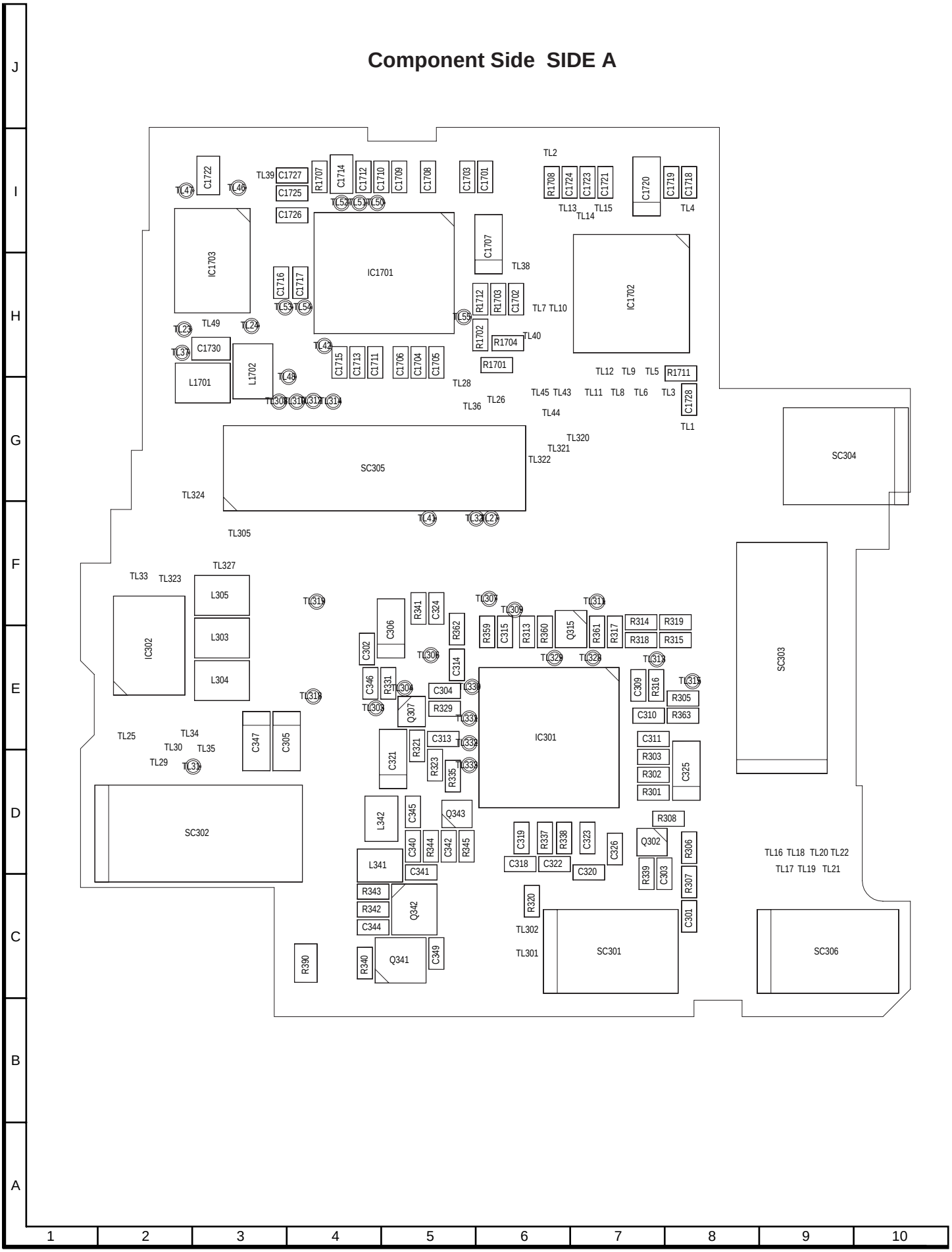


Wiring Side SIDE B



9-5. HEAD AMP P.W.B.

Component Side SIDE A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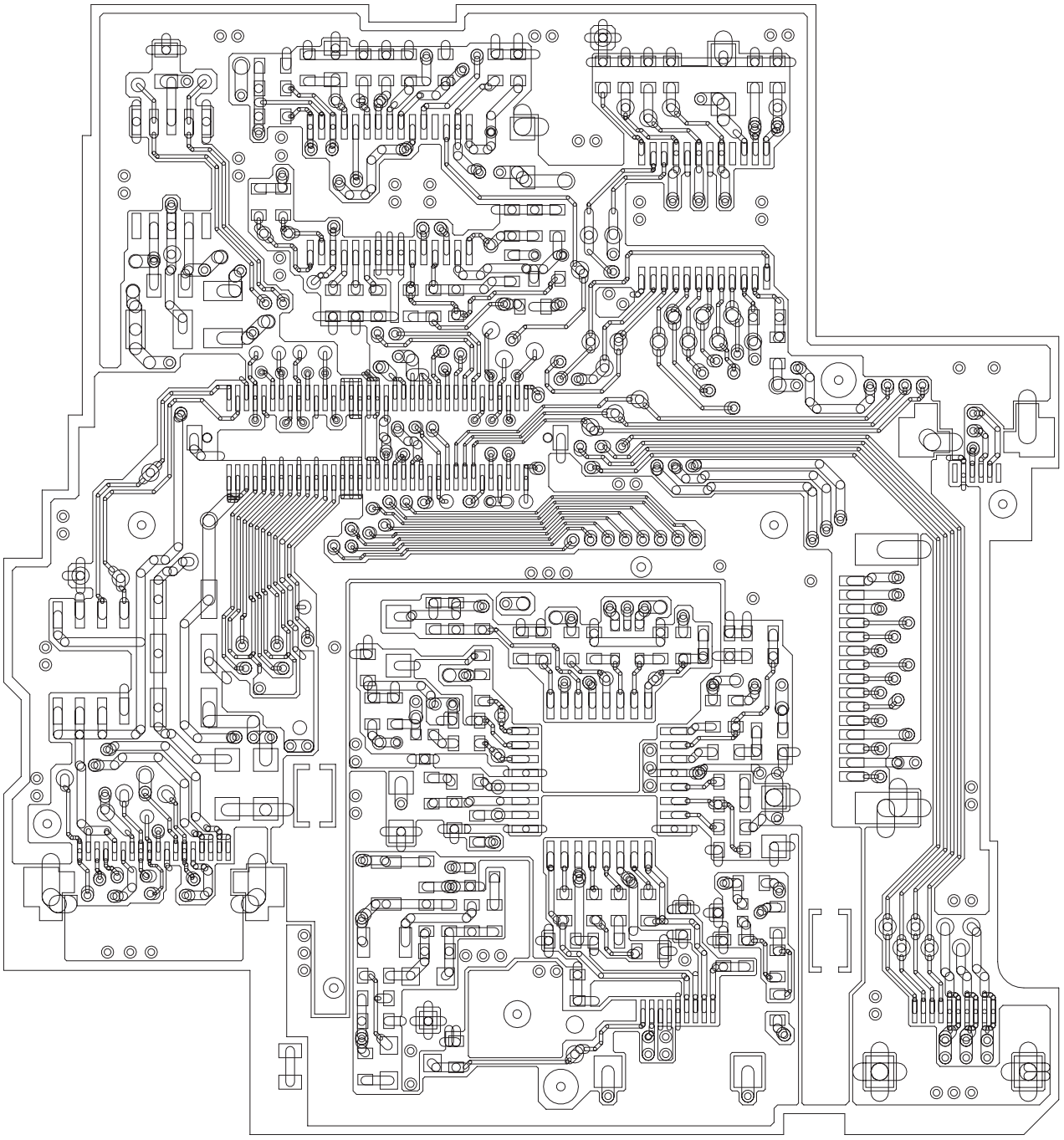
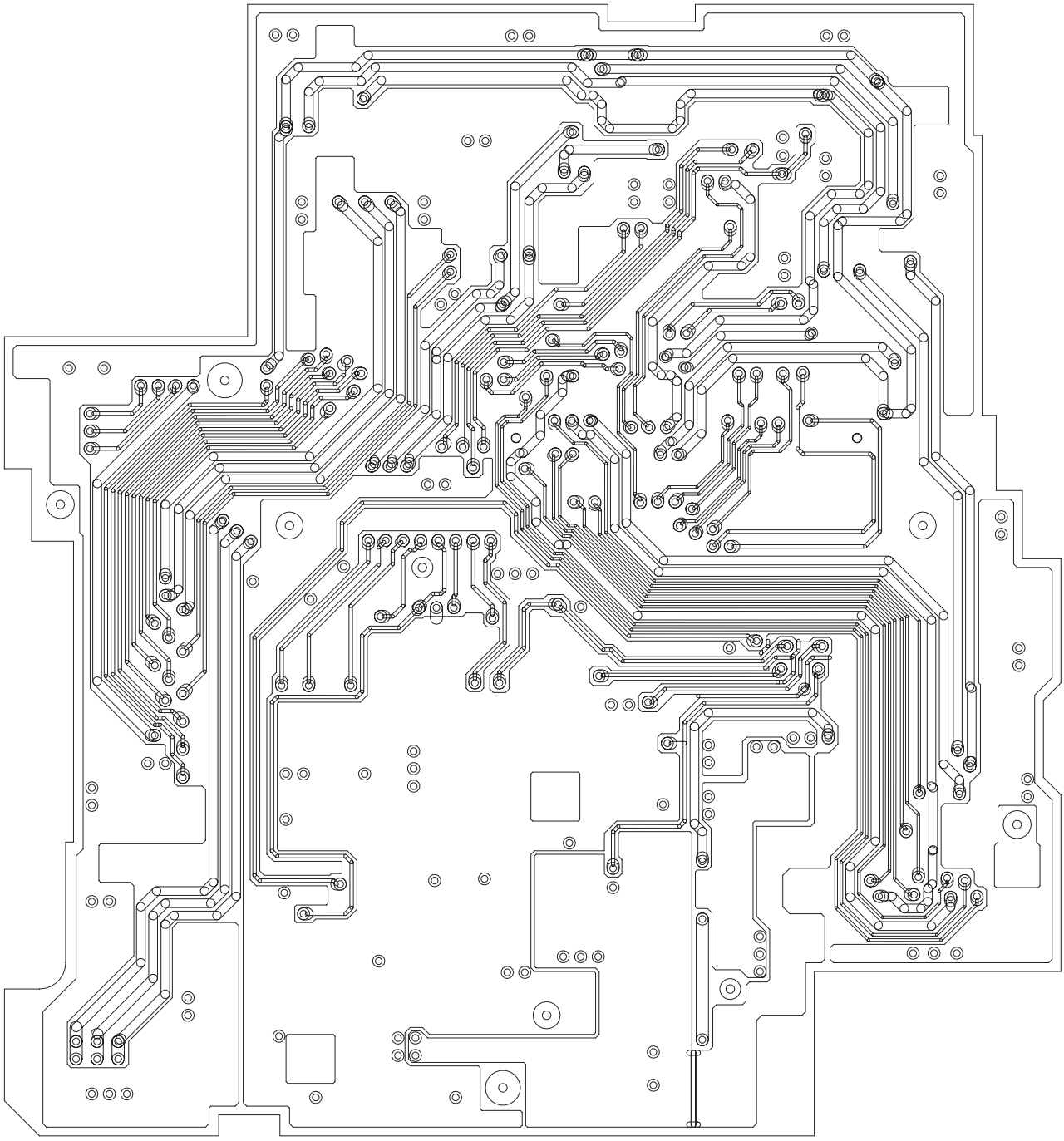
Wiring Side SIDE A



Wiring Side SIDE B



VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

10. REPLACEMENT PARTS LIST/ EXPLODED VIEWS

ELECTRICAL PARTS LIST

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

" HOW TO ORDER REPLACEMENT PARTS "

★MARK : SPARE PARTS-DELIVERY SECTION:ALL JAPAN

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER **2. REF. NO.**
3. PART NO. **4. DESCRIPTION**
5. PRICE CODE

⚠ **MARK: SAFETY RELATED PARTS**

PWB ASSEMBLY IS NOT REPLACEMENT ITEM

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES *(NOT REPLACEMENT ITEM)*

	DUNTK2887QA00	VCR Unit(VL-H860S)	—
	DUNTK2887QA01	VCR Unit(VL-H860H)	—
	DUNTK2887QA02	VCR Unit(VL-H94E/EW/EX)	—
	DUNTK2887QA03	VCR Unit(VL-H870S)	—
	DUNTK2887QA05	VCR Unit(VL-H96E/EW/EX)	—
	DUNTK2887QA06	VCR Unit(VL-H890S)	—
	DUNTK2887QA08	VCR Unit(VL-H960E/EW)	—
	DUNTK2890QA00	CAMERA1 Unit	—
	DUNTK2893QA00	CAMERA2 Unit	—
	DUNTK2895PM01	CCD Unit	—
	RAMP-0031TAN1	HEAD AMP Unit	—

DUNTK2887QA00(VL-H860S)
DUNTK2887QA01(VL-H860H)
DUNTK2887QA02(VL-H94E/EW/EX)
DUNTK2887QA03(VL-H870S)
DUNTK2887QA05(VL-H96E/EW/EX)
DUNTK2887QA06(VL-H890S)
DUNTK2887QA08(VL-H960E/EW)
VCR UNIT

INTEGRATED CIRCUITS

⚠	CP901	VHiCCP2E30/-1	CCP2E30, 1.25A 72V	AD
⚠	CP902	VHiCCP2E30/-1	CCP2E30, 1.25A 72V	AD
⚠	CP903	VHiCCP2E30/-1	CCP2E30, 1.25A 72V	AD
	IC401	VHiCXA2085R-1	CXA2085R, Luminance Process	AX
	IC601	VHiCXA1737R-1	CXA1737R, AFM Signal Process	AU
	IC602	VHiTC4W66U/-1	TC4W66U, I/O SW	AF
	IC701	VHiRH5RE33A-1	RH5RE33A, 3.3V REG	AE
	IC702	VHiRN5VD29A-1	RN5VD29A, 2.9V DET	AE
	IC703	VHiS24C02A/-1	S24C02A	AK
	IC704	RH-iX0672TAZZ	IX0672TA, System/Servo Control(H870S/H890S/H96E/EW/EX/H960E/EW)	AT
	IC704	RH-iX0674TAZZ	IX0674TA, System/Servo Control(H860S/H/H94E/EW/EX)	AT
	IC705	RH-iX0667TAZZ	IX0667TA, OSD	AQ
	IC706	VHiRS5C313/-1	RS5C313, Clock	AL
	IC800	VHiiR3Y29AM-1	IR3Y29AM, LCD Decoder	AV
	IC900	VHiMB3825A/-1	MB3825A, Power Control IC(Master)	AR
	IC901	VHiMB3788FV-1	MB3788FV, Power Control IC(Slave)	AM
	IC902	VHiBU4051FV-1	BU4051FV, Multiplexer	AF
	IC1401	VHiCXA2083R-1	CXA2083R, IN PUT/ OUT PUT Process	AU
	IC1602	VHiBA7785FS-1	BA7785FS, Headphone/ Speaker Amp.	AN
	IC1800	VHiNJM4565V-1	NJM4565V, Current Detecter	AF
	IC1801	VHiNJM2107F-1	NJM2107F, AFC LPE	AE
	IC1802	VHiLZ9GH16/-1	LZ9GH16, LCD Controler (H860S/H/H870S/H94E/EW/EX/H96E/EW/EX)	AP
	IC1802	VHiLZ9GH17/-1	LZ9GH17, LCD Controler (H890S/H960E/EW)	AP
	IC2401	VHiM52358VP-1	M52358VP, PAL Jog	AS
	IC2701	VHiNJM2904M-1	NJM2904M, L.P.F. Amp.	AE
	IC2702	VHiCXA1814N-1	CXA1814N, ATF IC	AQ
	IC2901	VHiMM1433BV-1	MM1433BV, Charge Control IC	AQ
	IC3701	VHiBU2092FV-1	BU2092FV	AG
	IC3702	VHiBU2092FV-1	BU2092FV	AG
	IC4401	VHiCXL5517N-1	CXL5517N, CCD Delay Line	AM
	IC4701	VHiMB88344F-1	MB88344F, D/A Converter	AV
	IC4702	VHiMB8346BV-1	MB88346BV, D/A Converter	AN
	IC5401	VHiCXL5517N-1	CXL5517N, CCD Delay Line	AM
	IC6601	VHiLA7471M/-1	LA7471M, Mic Amp.	AN
	IC7451	VHiCXA1211M-1	CXA1211M, VCA	AH
	IC8301	VHiM52374VP-1	M52374VP, COS-EQ	AK

TRANSISTORS

Q401	VSRN1903///-1	RN1903	AC
Q402	VSRN1903///-1	RN1903	AC
Q403	VSRT1N441U/-1	RT1N441U	AB
Q404	VSRT1N241U/-1	RT1N241U	AB
Q406	VS2SA1989R/-1	2SA1989R	AB
Q407	VSRN2704///-1	RN2704	AC
Q408	VSRN2704///-1	RN2704	AC
Q409	VSRN1703///-1	RN1703	AC
Q410	VSRN1703///-1	RN1703	AC
Q411	VS2SA1989R/-1	2SA1989R	AB
Q413	VSRT1N441U/-1	RT1N441U	AB
Q415	VSHN1B01FU/-1	HN1B01FU	AC
Q416	VSRT1N441U/-1	RT1N441U	AB
Q451	VS2SC5383F/-1	2SC5383F	AB
Q452	VSHN2C01FU/-1	HN2C01FU	AC
Q453	VSRN1910///-1	RN1910	AC
Q601	VSFMG12////-1	FMG12	AD
Q603	VSRN4984///-1	RN4984	AC
Q604	VS2SC5383F/-1	2SC5383F	AB
Q605	VSRT1N441U/-1	RT1N441U	AB
Q606	VS2SA1989R/-1	2SA1989R	AB
Q607	VSHN1B01FU/-1	HN1B01FU	AC
Q701	VSRN4983///-1	RN4983	AC
Q702	VSRN1904///-1	RN1904	AC
Q703	VSRT1N241U/-1	RT1N241U	AB
Q704	VSRN1904///-1	RN1904	AC
Q705	VSRN1904///-1	RN1904	AC
Q706	VSHN1C01FU/-1	HN1C01FU	AC
Q707	VSHN2C01FU/-1	HN2C01FU	AC
Q708	VSRN1904///-1	RN1904	AC
Q709	VSRN1904///-1	RN1904	AC
Q710	VSRT1N241U/-1	RT1N241U (H860S/H/H94E/EW/EX)	AB
Q712	VSRN1904///-1	RN1904 (H860S/H/H94E/EW/EX)	AC
Q713	VSRN1904///-1	RN1904 (H860S/H/H94E/EW/EX)	AC
Q714	VSRN1904///-1	RN1904 (H860S/H/H94E/EW/EX)	AC
Q715	VSRT1N241U/-1	RT1N241U (H870S/H890S/H96E/EW/EX/H960E/EW)	AB

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
Q716	VSHN1B01FU/-1		HN1B01FU	AC
Q717	VSRT1N241U/-1		RT1N241U	AB
Q718	VSRN2904///-1		RN2904	AC
Q719	VSHN1C01FU/-1		HN1C01FU	AC
Q721	VSHN2A01FU/-1		HN2A01FU	AC
Q722	VSHN2C01FU/-1		HN2C01FU	AC
Q800	VS2SC5383F/-1		2SC5383F	AB
Q801	VS2SA1989R/-1		2SA1989R	AB
Q901	VS2SA2010//-1		2SA2010	AD
Q902	VS2SA1362GR-1		2SA1362GR	AC
Q903	VS2SA1989R/-1		2SA1989R	AB
Q904	VS2SA1362GR-1		2SA1362GR	AC
Q908	VS2SA2010//-1		2SA2010	AD
Q909	VSNDS355AN/-1		NDS355AN	AE
Q910	VS2SA1362GR-1		2SA1362GR	AC
Q911	VSRN4983///-1		RN4983	AC
Q912	VS2SA1362GR-1		2SA1362GR	AC
Q914	VS2SB1123T/-1		2SB1123T	AA
Q915	VS2SA1989R/-1		2SA1989R	AB
Q916	VS2SA1989R/-1		2SA1989R	AB
Q918	VSRT1P441U/-1		RT1P441U	AB
Q919	VSRN4983///-1		RN4983	AC
Q920	VSRN4983///-1		RN4983	AC
Q921	VS2SA1989R/-1		2SA1989R	AB
Q922	VS2SA2010//-1		2SA2010	AD
Q923	VSNDS355AN/-1		NDS355AN	AE
Q924	VS2SA1362GR-1		2SA1362GR	AC
Q926	VS2SA2010//-1		2SA2010	AD
Q927	VS2SA2010//-1		2SA2010	AD
Q928	VS2SA2010//-1		2SA2010	AD
Q929	VS2SA2010//-1		2SA2010	AD
Q930	VS2SA1989R/-1		2SA1989R	AB
Q931	VS2SA1989R/-1		2SA1989R	AB
Q936	VS2SA1362GR-1		2SA1362GR	AC
Q937	VS2SA1989R/-1		2SA1989R	AB
Q938	VS2SC4944Y/-1		2SC4944Y	AC
Q1401	VSRN1704///-1		RN1704	AC
Q1602	VSRT1N441U/-1		RT1N441U	AB
Q1603	VS2SB12956/-1		2SB12956	AB
Q1604	VS2SB12956/-1		2SB12956	AB
Q1605	VSRT1N441U/-1		RT1N441U	AB
Q1800	VSHN1B01FU/-1		HN1B01FU	AC
Q2402	VSRT1N241U/-1		RT1N241U	AB
Q2403	VSRN4984///-1		RN4984	AC
Q2404	VS2SC4944Y/-1		2SC4944Y	AC
Q2461	VSRT1N441U/-1		RT1N441U	AB
Q2800	VSRN1704///-1		RN1704 (H870S/H890S/H96E/EW/EX/H960E/EW)	AC
Q2801	VSRN4990///-1		RN4990 (H870S/H890S/H96E/EW/EX/H960E/EW)	AC
Q2802	VSRN4990///-1		RN4990 (H870S/H890S/H96E/EW/EX/H960E/EW)	AC
Q2901	VSFTS1001//-1		FTS1001	AG
Q2903	VSFTS1001//-1		FTS1001	AG
Q2905	VS2SB1302S/-1		2SB1302S	AD
Q2910	VSRN4983///-1		RN4983	AC
Q2911	VS2SA1362GR-1		2SA1362GR	AC
Q4401	VS2SA1989R/-1		2SA1989R	AB
Q4402	VS2SA1989R/-1		2SA1989R	AB
Q4403	VSHN1C01FU/-1		HN1C01FU	AC
Q4405	VSHN1C01FU/-1		HN1C01FU	AC
Q4407	VS2SA1362GR-1		2SA1362GR	AC
Q4441	VS2SC5384C/-1		2SC5384C	AB
Q5401	VS2SA1989R/-1		2SA1989R	AB
Q6401	VS2SA1989R/-1		2SA1989R	AB
Q6402	VS2SC5383F/-1		2SC5383F	AB
Q6403	VSXP1B301//-1		XP1B301	AD
Q6406	VS2SC5383F/-1		2SC5383F	AB
Q6407	VSXP1B301//-1		XP1B301	AD
Q7401	VS2SA1989R/-1		2SA1989R	AB
Q7402	VS2SC5384C/-1		2SC5384C	AB
Q7403	VS2SC5383F/-1		2SC5383F	AB
Q7404	VS2SA1989R/-1		2SA1989R	AB
Q7453	VSRT1P241U/-1		RT1P241U	AB
Q7454	VS2SC5384C/-1		2SC5384C	AB
Q7456	VSRN1703///-1		RN1703	AC
Q7457	VSHN1C01FU/-1		HN1C01FU	AC
Q8303	VS2SA1989R/-1		2SA1989R	AB
Q8304	VS2SA1989R/-1		2SA1989R	AB
Q8306	VS2SC5384C/-1		2SC5384C	AB
Q8307	VSHN2C01FU/-1		HN2C01FU	AC
Q8356	VSHN2C01FU/-1		HN2C01FU	AC
Q8361	VS2SA1873Y/-1		2SA1873Y	AC
Q8362	VSHN1B01FU/-1		HN1B01FU	AC
Q8401	VSHN1C01FU/-1		HN1C01FU	AC
Q8404	VS2SA1989R/-1		2SA1989R	AB
Q8405	VS2SC5384C/-1		2SC5384C	AB
Q8406	VSHN1C01FU/-1		HN1C01FU	AC
Q8407	VS2SC5383F/-1		2SC5383F	AB
Q8408	VS2SA1362GR-1		2SA1362GR	AC
Q8409	VSRN4983///-1		RN4983	AC
Q8452	VSHN1C01FU/-1		HN1C01FU	AC
Q8453	VSRT1N441U/-1		RT1N441U	AB
Q9401	VSRN1704///-1		RN1704	AC
Q9402	VSRT1N441U/-1		RT1N441U	AB
Q9601	VSRN4983///-1		RN4983	AC

DIODES

D601	VHDMA2S111/-1	MA2S111	AC
D701	VHD1SS355//-1	1SS355	AB
D702	RH-DX0182TAZZ	DX0182TA	AD
D800	VHDHVU17TRF-1	HVU17TRF	AE
D801	VHDMA132K//-1	MA132K	AA
D900	VHDF1J2H///-1	F1J2H	AD
D902	VHDF1J2H///-1	F1J2H	AD
D903	VHD1SS355//-1	1SS355	AB
D904	VHDF02J9///-1	F02J9	AD
D905	VHDDA227///-1	DA227	AB
D906	VHDF02J9///-1	F02J9	AD
D907	RH-EX0888CEZZ	Zener, EX0888CE	AC
D908	RH-EX0262TAZZ	Zener, EX0262TA	AB
D909	VHDF1J2H///-1	F1J2H	AD
D910	VHDF1J2H///-1	F1J2H	AD
D911	VHDF1J2H///-1	F1J2H	AD
D912	VHDF1J2H///-1	F1J2H	AD
D913	VHDF1J2H///-1	F1J2H	AD
D1401	VHDMA133///-1	MA133	AB
D1402	VHDMA133///-1	MA133	AB
D1403	VHDMA133///-1	MA133	AB
D1800	RH-EX0262TAZZ	Zener, EX0262TA	AB
D1801	VHDHVC359TR-1	HVC359TR	AD
D1901	VHDMA2S111/-1	MA2S111	AC
D2904	VHDF1J2H///-1	F1J2H	AD
D2909	RH-EX0873CEZZ	Zener, EX0873CE	AD
D2910	VHDF1J2H///-1	F1J2H	AD
D2911	VHD1SS355//-1	1SS355	AB
D2912	RH-EX0855CEZZ	EX0855CE	
D8356	VHDMA147///-1	MA147	AB

PACKAGED CIRCUITS

TH1800	VHHT1103K44-1	Thermistor	AD
X701	RCRSC0033TAZZ	Crystal, CRSC0033TA	AG
X702	RCRSC0032TAZZ	Crystal, CRSC0032TA	AG
X800	RCRSC0101TAZZ	Crystal, CRSC0101TA	AG
X1401	RCRSC0145TAZZ	Crystal, CRSC0145TA	AG

COILS AND TRANSFORMERS

FL701	RCiLB0039TAZZ	Oscillation Coil	AE
L401	VPCQM330K1R3N	Peaking, 33µH	AC
L408	VPD9M6R8J1R8N	Peaking, 6.8µH	AC
L601	VPCCM101K2R1N	Peaking, 100µH	AC
L602	VPCQM470K1R9N	Peaking, 47µH	AC
L800	VPBWM470K2R6N	Peaking, 47µH	AC
L802	VPAWM680J110N	Peaking, 68µH	AC
L900	RCiLP0160TAZZ	Coil, 4.7µH	AE
L901	RCiLP0158TAZZ	Coil, CiLP0158TA	AE
L902	VPCCM2R2MR09N	Peaking, 2.2µH	AC

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
L903	VPCCM2R2MR09N		Peaking, 2.2µH	AC
L904	RCiLP0160TAZZ		Coil, 4.7µH	AE
L905	RCiLP0158TAZZ		Coil, 22µH	AE
L906	VPD9M100KR86N		Peaking, 10µH	AC
L907	VPCQM100KR41N		Peaking, 10µH	AC
L908	VPCQM470K1R9N		Peaking, 47µH	AC
L909	RCiLP0226TAZZ		Coil, CiLP0226TA	AE
L911	VPD9M100KR86N		Peaking, 10µH	AC
L912	VPD9M100KR86N		Peaking, 10µH	AC
L913	VPD9M100KR86N		Peaking, 10µH	AC
L914	VPD9M100KR86N		Peaking, 10µH	AC
L915	VPD9M100KR86N		Peaking, 10µH	AC
L916	VPD9M100KR86N		Peaking, 10µH	AC
L917	RCiLP0160TAZZ		Coil, 4.7µH	AE
L918	RCiLP0158TAZZ		Coil, 22µH	AE
L919	VPCCM2R2MR09N		Peaking, 2.2µH	AC
L920	RCiLP0160TAZZ		Coil, CiLP0160TA	AE
L921	RCiLP0205TAZZ		Coil, 33µH	AE
L922	RCiLP0205TAZZ		Coil, 33µH	AE
L923	RCiLP0160TAZZ		Coil, 4.7µH	AE
L924	RCiLP0205TAZZ		Coil, 33µH	AE
L926	VPCCM2R2MR09N		Peaking, 2.2µH	AC
L927	VPCQM2R2MR15N		Peaking, 2.2µH	AC
L928	RCiLP0160TAZZ		Coil, CiLP0160TA	AE
L929	RCiLP0158TAZZ		Coil, 22µH	AE
L930	RCiLP0226TAZZ		Coil, CiLP0226TA	AE
L1401	VPCQM330K1R3N		Peaking, 33µH	AC
L1402	VPD9MR68JR39N		Peaking, 0.68µH	AB
L1601	VP-WM220KR71N		Peaking, 22µH	AB
L1802	VPD9M120J1R9N		Peaking, 12µH (H890S/H960E/EW)	AB
L1802	VPD9M220J2R7N		Peaking, 22µH (H860S/H/H870S/H94E/EW/EX/H96E/EW/EX)	AC
L1803	VPD9M100J1R7N		Peaking, 10µH	AC
L2401	VPD9M220K2R0N		Peaking, 22µH	AC
L2701	VPCCM220KR45N		Peaking, 22µH	AC
L2800	VPBWM100KR50N		Peaking, 10µH	AC
L4401	VPCCM220KR45N		Peaking, 22µH	AC
L6401	VPD9M220K2R0N		Peaking, 22µH	AC
L6601	VPCCM331K7R0N		Peaking, 330µH	AC
L7401	VPD9M1R8JR84N		Peaking, 1.8µH	AC
L7402	VPD9M121J140N		Peaking, 120µH	AC
L7403	VPAEM391J220N		Peaking, 390µH	AC
L8301	VPD9M330J3R6N		Peaking, 33µH	AC
L8302	VPD9M8R2J2R0N		Peaking, 8.2µH	AC
L8303	VPD9M3R3J1R2N		Peaking, 3.3µH	AC
L8356	VPD9M8R2J2R0N		Peaking, 8.2µH	AC
L8359	VPD9M2R2JR96N		Peaking, 2.2µH	AC
L8401	VPD9M220J2R7N		Peaking, 22µH	AC
L8402	VPD9M221J210N		Peaking, 220µH	AB
L8403	VPAEM471J250N		Peaking, 470µH	AC
L8404	VPAEM331J210N		Peaking, 330µH	AC
L8405	VPD9M330J3R6N		Peaking, 33µH	AC
L8406	VPCCM220KR45N		Peaking, 22µH	AC
L8408	VPD9M180J2R4N		Peaking, 18µH	AC
⚠ T901	RTRNZ0146TAZZ		Power Transformer	AF

CAPACITORS

	VCCCCZ1HH151J		150p	50V	Ceramic (H890S/H960E/EW)	AB
C401	VCSATE1AJ476M		47	10V	Tantalum	AD
C402	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C403	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C404	VCSATA1AJ106M		10	10V	Tantalum	AC
C405	VCSATA1AJ106M		10	10V	Tantalum	AC
C406	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C407	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C408	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C409	VCCCCZ1HH101J		100p	50V	Ceramic	AB
C410	VCKYCY1AB474K		0.47	10V	Ceramic	AC
C411	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C412	RC-KZ0055TAZZ		Capacitor			AD
C414	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C415	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C416	VCKYCY1AB474K		0.47	10V	Ceramic	AC
C417	VCKYCY1AB474K		0.47	10V	Ceramic	AC
C418	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C419	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C420	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C421	VCSATE1AJ476M		47	10V	Tantalum	AD
C422	VCKYCY1AB474K		0.47	10V	Ceramic	AC
C423	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C424	RC-KZ0054TAZZ		Capacitor			AD
C425	VCKYCY1CB473K		0.047	16V	Ceramic	AA
C426	VCKYTV1AB105K		1	10V	Ceramic	AD
C427	VCKYTV1CB334K		0.33	16V	Ceramic	AC
C428	VCKYCY1AB474K		0.47	10V	Ceramic	AC
C429	VCKYCY1EB103K		0.01	25V	Ceramic	AA
C430	VCKYCY1HB332K		3300p	50V	Ceramic	AA
C431	VCKYCY1AB474K		0.47	10V	Ceramic	AC
C432	RC-KZ0054TAZZ		Capacitor			AD
C433	VCSATA1AJ106M		10	10V	Tantalum	AC
C435	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C436	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C437	VCKYTV1CB474K		0.47	16V	Ceramic	AC
C438	VCCCCY1HH101J		100p	50V	Ceramic	AA
C439	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C440	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C441	VCCCCY1HH471J		470p	50V	Ceramic	AA
C442	VCSATA1AJ106M		10	10V	Tantalum	AC
C443	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C444	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C446	VCCCCY1HH151J		150p	50V	Ceramic	AA
C447	VCCCCY1HH151J		150p	50V	Ceramic	AA
C448	VCCCCY1HH331J		330p	50V	Ceramic	AA
C449	VCCCCY1HH391J		390p	50V	Ceramic	AA
C452	VCCCCY1HH151J		150p	50V	Ceramic	AA
C453	VCCCCY1HH151J		150p	50V	Ceramic	AA
C455	VCCCCY1HH331J		330p	50V	Ceramic	AA
C456	VCCCCY1HH391J		390p	50V	Ceramic	AA
C458	VCCCCZ1HH101J		100p	50V	Ceramic	AB
C461	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C462	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C463	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C464	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C601	VCKYTV1CF225Z		2.2	16V	Ceramic	AC
C602	VCKYTV1CF225Z		2.2	16V	Ceramic	AC
C609	VCKYCY1AF105Z		1	10V	Ceramic	AC
C610	VCKYCY1AF105Z		1	10V	Ceramic	AC
C612	VCKYCY1HB332K		3300p	50V	Ceramic	AA
C613	VCKYTV1CB474K		0.47	16V	Ceramic	AC
C614	VCKYCY1HB332K		3300p	50V	Ceramic	AA
C615	VCKYCZ1HF103Z		0.01	50V	Ceramic	AB
C616	VCKYCZ1HF103Z		0.01	50V	Ceramic	AB
C617	VCKYCZ1HF103Z		0.01	50V	Ceramic	AB
C618	VCSAPD1AJ225M		2.2	10V	Tantalum	AC
C619	VCKYCZ1HB681K		680p	50V	Ceramic	AB
C620	VCKYCZ1HF103Z		0.01	50V	Ceramic	AB
C621	VCCCCZ1HH220J		22p	50V	Ceramic	AB
C622	VCSATA0JJ226M		22	6.3V	Tantalum	AD
C623	VCSAPD1CJ105M		1	16V	Tantalum	AC
C624	VCKYTV1CB224K		0.22	16V	Ceramic	AB
C625	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C626	VCSATA0JJ106M		10	6.3V	Tantalum	AD
C627	VCSATA0JJ106M		10	6.3V	Tantalum	AD
C628	VCSATA0JJ106M		10	6.3V	Tantalum	AD
C629	VCKYTV1CB224K		0.22	16V	Ceramic	AB
C630	VCSATE1AJ476M		47	10V	Tantalum	AD
C631	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C632	VCKYTV1CB474K		0.47	16V	Ceramic	AC
C633	VCKYTV1CB224K		0.22	16V	Ceramic	AB
C634	VCSATA0JJ226M		22	6.3V	Tantalum	AD
C635	VCKYTV1AB105K		1	10V	Ceramic	AD
C636	VCKYTV1CB224K		0.22	16V	Ceramic	AB
C637	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C638	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C639	VCKYCY1HB102K		1000p	50V	Ceramic	AA
C641	VCSATE1AJ476M		47	10V	Tantalum	AD
C642	VCKYTV1CB224K		0.22	16V	Ceramic	AB

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Ref. No.	Part No.	★	Description	Code
C643	VCSATE0JJ336M		33 6.3V Tantalum	AD
C644	VCSATE1AJ336M		33 10V Tantalum	AG
C645	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C646	VCSATE1AJ476M		47 10V Tantalum	AD
C649	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C650	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C697	VCKYCY1HB102K		1000p 50V Ceramic	AA
C698	VCKYTV1CB224K		0.22 16V Ceramic	AB
C699	VCSATA0JJ106M		10 6.3V Tantalum	AD
C701	VCKYCY1HB102K		1000p 50V Ceramic	AA
C702	VCKYCY1HB102K		1000p 50V Ceramic	AA
C703	VCKYCY1HB102K		1000p 50V Ceramic	AA
C704	VCKYCY1HB102K		1000p 50V Ceramic	AA
C706	VCKYCY1HB102K		1000p 50V Ceramic	AA
C707	VCKYCY1HB102K		1000p 50V Ceramic	AA
C710	VCKYCY1AF105Z		1 10V Ceramic	AC
C712	VCCCCY1HH100D		10p 50V Ceramic	AA
C713	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C714	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C715	VCCCCY1HH100D		10p 50V Ceramic	AA
C716	VCKYCY1HB471K		470p 50V Ceramic	AA
C717	VCSATA1AJ106M		10 10V Tantalum	AC
C718	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C719	VCKYCY1HB102K		1000p 50V Ceramic	AA
C720	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C721	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C722	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C723	VCSATA1AJ106M		10 10V Tantalum	AC
C724	VCKYCY1AF105Z		1 10V Ceramic	AC
C725	VCCCCY1HH390J		39p 50V Ceramic	AA
C726	VCKYCY1AF105Z		1 10V Ceramic	AC
C800	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C801	VCSATA1AJ106M		10 10V Tantalum	AC
C803	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C804	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C805	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C806	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C807	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C808	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C809	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C810	VCKYCY0JB105K		1 6.3V Ceramic	AC
C811	VCKYCY0JB105K		1 6.3V Ceramic	AC
C812	VCKYTV1CB105K		1 16V Ceramic	AC
C813	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C814	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C815	VCKYCY0JB105K		1 6.3V Ceramic	AC
C816	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C817	VCKYCY0JB105K		1 6.3V Ceramic	AC
C818	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C819	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C820	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C821	VCCCCZ1HH6R0D		6p 50V Ceramic	AA
C822	VCKYCZ1EB682K		6800p 25V Ceramic	AB
C824	VCSATA1AJ335M		3.3 10V Tantalum	AC
C825	VCKYTV1CB474K		0.47 16V Ceramic	AC
C826	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C827	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C828	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C829	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C830	VCCCCZ1HH390J		39p 50V Ceramic	AB
C831	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C832	VCSATA1AJ106M		10 10V Tantalum	AC
C833	VCCCCZ1HH390J		39p 50V Ceramic	AB
C834	VCKYCY0JB105K		1 6.3V Ceramic	AC
C836	VCKYCY1CF334Z		0.33 16V Ceramic	AA
C837	VCKYCZ1HB681K		680p 50V Ceramic	AB
C838	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C839	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C842	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C843	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C844	VCSATA1AJ106M		10 10V Tantalum	AC
C901	RC-KZ0070TAZZ		4.7 16V Capacitor	AD
C902	RC-KZ0070TAZZ		4.7 16V Capacitor	AD
C903	RC-KZ0055TAZZ		Capacitor	AD
C904	RC-KZ0055TAZZ		Capacitor	AD
C905	RC-KZ0070TAZZ		4.7 16V Capacitor	AD
C906	RC-KZ0070TAZZ		4.7 16V Capacitor	AD
C907	RC-KZ0055TAZZ		Capacitor	AD
C908	RC-KZ0055TAZZ		Capacitor	AD
C909	VCKYTV1AB105K		1 10V Ceramic	AD
C910	RC-KZ0054TAZZ		Capacitor	AD
C911	RC-KZ0055TAZZ		Capacitor	AD
C912	RC-KZ0058TAZZ		1 25V Capacitor	AC
C913	RC-KZ0058TAZZ		1 25V Capacitor	AC
C914	RC-KZ0058TAZZ		1 25V Capacitor	AC
C915	RC-KZ0055TAZZ		3.3 10V Capacitor	AD
C916	RC-KZ0055TAZZ		Capacitor	AD
C917	VCKYTV1CF105Z		1 16V Ceramic	AB
C918	VCKYTV1EB104K		0.1 25V Ceramic	AB
C919	VCKYTV1CF105Z		1 16V Ceramic	AB
C921	VCKYTV1EB104K		0.1 25V Ceramic	AB
C923	VCKYTV1CF105Z		1 16V Ceramic	AB
C924	VCKYTV1CF105Z		1 16V Ceramic	AB
C925	VCKYCY1CB104K		0.1 16V Ceramic	AB
C926	RC-KZ0070TAZZ		4.7 16V Capacitor	AD
C927	RC-KZ0070TAZZ		4.7 16V Capacitor	AD
C928	RC-KZ0055TAZZ		Capacitor	AD
C929	RC-KZ0054TAZZ		2.2 16V Capacitor	AD
C930	RC-KZ0049TAZZ		6.8 16V Capacitor	AD
C931	RC-KZ0049TAZZ		6.8 16V Capacitor	AD
C932	RC-KZ0070TAZZ		4.7 16V Capacitor	AD
C933	RC-KZ0070TAZZ		4.7 16V Capacitor	AD
C934	RC-KZ0055TAZZ		Capacitor	AD
C935	RC-KZ0055TAZZ		Capacitor	AD
C937	RC-KZ0070TAZZ		Capacitor	AD
C938	RC-KZ0070TAZZ		Capacitor	AD
C939	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C940	VCKYCY1EF104Z		0.1 25V Ceramic	AA
C941	RC-KZ0055TAZZ		Capacitor	AD
C942	RC-KZ0058TAZZ		1 25V Capacitor	AC
C1401	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1402	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1403	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1404	VCKYCY1CB104K		0.1 16V Ceramic	AB
C1405	VCSATE1AJ476M		47 10V Tantalum	AD
C1406	VCSATE1AJ476M		47 10V Tantalum	AD
C1407	VCKYTV1CB474K		0.47 16V Ceramic	AC
C1408	VCKYTV1CB474K		0.47 16V Ceramic	AC
C1409	VCKYCY1CB104K		0.1 16V Ceramic	AB
C1410	VCKYCY1AB474K		0.47 10V Ceramic	AC
C1411	RC-KZ0055TAZZ		Capacitor	AD
C1412	VCSATA1AJ106M		10 10V Tantalum	AC
C1413	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1414	VCKYTV1AB105K		1 10V Ceramic	AD
C1415	VCKYCY1AB474K		0.47 10V Ceramic	AC
C1416	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1417	VCKYCY1AB474K		0.47 10V Ceramic	AC
C1418	VCKYTV1AB105K		1 10V Ceramic	AD
C1419	VCKYCZ1CB223K		0.022 16V Ceramic	AC
C1420	VCKYCY1AB474K		0.47 10V Ceramic	AC
C1421	VCKYTV1CB334K		0.33 16V Ceramic	AC
C1422	VCKYTV1AB105K		1 10V Ceramic	AD
C1423	VCCCCZ1HH220J		22p 50V Ceramic	AB
C1424	VCKYTV1AB105K		1 10V Ceramic	AD
C1425	VCCCCZ1HH101J		100p 50V Ceramic	AB
C1426	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1427	VCKYCY1AB474K		0.47 10V Ceramic	AC
C1428	VCSATA1AJ106M		10 10V Tantalum	AC
C1429	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1430	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1431	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1432	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C1433	VCSATA1AJ106M		10 10V Tantalum	AC
C1434	VCCCCZ1HH680J		68p 50V Ceramic	AB
C1435	VCKYCY1CB104K		0.1 16V Ceramic	AB
C1436	VCKYCY1CB104K		0.1 16V Ceramic	AB
C1437	VCSATA1AJ106M		10 10V Tantalum	AC
C1438	VCKYCY1AB474K		0.47 10V Ceramic	AC
C1439	VCCCCZ1HH680J		68p 50V Ceramic	AB
C1601	VCKYCY1CB473K		0.047 16V Ceramic	AA

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Ref. No.	Part No.	★	Description	Code
C1602	VCSATA1AJ106M		10 10V Tantalum	AC
C1603	VCKYCY1CF474Z		0.47 16V Ceramic	AB
C1604	VCKYCY1CF474Z		0.47 16V Ceramic	AB
C1605	VCKYCY1CF474Z		0.47 16V Ceramic	AB
C1606	VCKYCY1CB473K		0.047 16V Ceramic	AA
C1609	VCKYCZ1HB222K		2200p 50V Ceramic	AB
C1610	VCKYCY1AF105Z		1 10V Ceramic	AC
C1611	VCKYCY1AF105Z		1 10V Ceramic	AC
C1612	VCKYCZ1HB222K		2200p 50V Ceramic	AB
C1614	VCSATE1AJ476M		47 10V Tantalum	AD
C1615	VCKYCY1CB473K		0.047 16V Ceramic	AA
C1616	VCKYCY1CB473K		0.047 16V Ceramic	AA
C1617	VCSATE1AJ476M		47 10V Tantalum	AD
C1618	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C1619	VCKYCY1HB102K		1000p 50V Ceramic	AA
C1800	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C1801	VCSATE1AJ336M		33 10V Tantalum	AG
C1803	VCSATE1CJ226M		22 16V Tantalum	AE
C1804	VCCCCZ1HH8R0D		8p 50V Ceramic	AB
C1805	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C1806	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C1807	VCSATA1DJ475M		4.7 20V Tantalum	AC
C1808	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C1809	VCKYCY0JB105K		1 6.3V Ceramic	AC
C1810	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C1811	VCKYCY0JB105K		1 6.3V Ceramic	AC
C1812	VCKYCZ1HB561K		560p 50V Ceramic	AC
C1813	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C1814	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C1816	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1817	VCKYCY0JB105K		1 6.3V Ceramic	AC
C1818	VCCCCZ1HH101J		100p 50V Ceramic (H890S/H960E/EW)	AB
C1818	VCCCCZ1HH151J		150p 50V Ceramic (H860S/H/H870S/H94E/EW/EX/H96E/EW/EX)	AB
C1819	VCCCCZ1HH220J		22p 50V Ceramic	AB
C1820	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1821	VCCCCZ1HH560J		56p 50V Ceramic	AB
C1825	VCKYCY1CF224Z		0.22 16V Ceramic	AA
C1826	VCCCCZ1HH101J		100p 50V Ceramic	AB
C1827	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C1829	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C1830	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C1831	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C1832	VCKYCY1CF104Z		0.1 16V Ceramic (H860S/H/H94E/EW/EX/H96E/EW/EX/H960E/EW)	AA
C1832	VCKYCZ1AB104K		0.1 10V Ceramic (H870S)	AB
C1840	VCKYTV1EB104K		0.1 25V Ceramic	AB
C1901	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1902	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1903	VCKYCZ1HB471K		470p 50V Ceramic	AB
C1904	VCKYCY1CB473K		0.047 16V Ceramic	AA
C1905	VCKYCZ1HB332K		3300p 50V Ceramic	AA
C1906	VCCCCZ1HH101J		100p 50V Ceramic	AB
C1907	VCKYTV1AB105K		1 10V Ceramic	AD
C1908	VCKYTV1HB103K		0.01 50V Ceramic	AA
C1909	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C1910	VCKYCY1AF105Z		1 10V Ceramic	AC
C1911	VCKYTV1EB104K		0.1 25V Ceramic	AB
C1912	VCKYTV1HB102K		1000p 50V Ceramic	AA
C1914	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1915	VCKYCZ1HB222K		2200p 50V Ceramic	AB
C1916	VCKYCY1HB103K		0.01 50V Ceramic	AA
C1918	VCKYCY1AF105Z		1 10V Ceramic	AC
C1919	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1920	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1921	VCKYCY1AF105Z		1 10V Ceramic	AC
C1922	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1923	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1924	VCKYCY1AF105Z		1 10V Ceramic	AC
C1925	VCKYCY1AF105Z		1 10V Ceramic	AC
C1927	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1928	VCKYCZ1HB222K		2200p 50V Ceramic	AB
C1929	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C1930	VCKYTV1EB104K		0.1 25V Ceramic	AB
C1931	VCKYCY1EB223K		0.022 25V Ceramic	AA
C1932	VCKYCY1CB104K		0.1 16V Ceramic	AB
C1933	VCKYCY1EB223K		0.022 25V Ceramic	AA
C1934	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C1935	VCKYCZ1HB471K		470p 50V Ceramic	AB
C1936	VCKYCY1EB223K		0.022 25V Ceramic	AA
C1937	VCKYCZ1CB822K		8200p 16V Ceramic	AB
C2401	VCSATA1AJ106M		10 10V Tantalum	AC
C2402	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C2403	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C2404	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C2405	VCCCCZ1HH121J		120p 50V Ceramic	AB
C2406	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C2407	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C2408	VCKYTV1AB105K		1 10V Ceramic	AD
C2409	VCSATA1AJ475M		4.7 10V Tantalum	AC
C2410	VCKYTV1AB105K		1 10V Ceramic	AD
C2411	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C2412	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C2413	VCKYCZ1HB152K		1500p 50V Ceramic	AB
C2414	VCKYCZ1HB391K		390p 50V Ceramic	AB
C2461	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C2701	VCKYCY1CB333K		0.033 16V Ceramic	AA
C2702	VCKYCZ1EB682K		6800p 25V Ceramic	AB
C2703	VCKYCY1HB102K		1000p 50V Ceramic	AA
C2704	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C2705	VCKYCY1CB104K		0.1 16V Ceramic	AB
C2706	VCSATE1AJ336M		33 10V Tantalum	AG
C2707	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C2708	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C2709	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C2710	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C2711	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C2712	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C2713	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C2714	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C2715	VCCCCY1HH8R0D		8p 50V Ceramic	AA
C2716	VCKYCY1HB472K		4700p 50V Ceramic	AA
C2800	VCKYCY0JB105K		1 6.3V Ceramic	AC
C2801	VCKYCZ1HB102K		1000p 50V Ceramic (H870S/H890S/H96E/EW/EX/H960E/EW)	AB
C2802	VCKYCZ1HB102K		1000p 50V Ceramic (H870S/H890S/H96E/EW/EX/H960E/EW)	AB
C2902	VCKYCY1HB103K		0.01 50V Ceramic	AA
C2903	VCCCCZ1HH101J		100p 50V Ceramic	AB
C2904	RC-KZ0051TAZZ		Capacitor	AC
C2905	VCKYCY1HB103K		0.01 50V Ceramic	AA
C2906	VCKYCY1CB104K		0.1 16V Ceramic	AB
C3701	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C3702	VCKYCY1HF103Z		0.01 50V Ceramic	AA
C4401	VCKYTV1AB105K		1 10V Ceramic	AD
C4402	RC-KZ0055TAZZ		Capacitor	AD
C4403	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C4404	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C4405	VCKYCY1CB104K		0.1 16V Ceramic	AB
C4406	VCKYCY1CB104K		0.1 16V Ceramic	AB
C4407	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4408	VCKYCY1CB104K		0.1 16V Ceramic	AB
C4409	VCSATA1AJ106M		10 10V Tantalum	AC
C4410	VCSATA1AJ106M		10 10V Tantalum	AC
C4411	VCCCCZ1HH150J		15p 50V Ceramic	AB
C4412	VCSATA1AJ106M		10 10V Tantalum	AC
C4413	VCCCCZ1HH150J		15p 50V Ceramic	AB
C4414	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C4701	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C4702	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C4703	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C4704	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C4705	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C5401	VCKYTV1AB105K		1 10V Ceramic	AD

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Ref. No.	Part No.	★	Description	Code
C5402	RC-KZ0055TAZZ		Capacitor	AD
C5403	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C5404	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C5405	VCKYCY1CB104K		0.1 16V Ceramic	AB
C5406	VCKYCY1CB104K		0.1 16V Ceramic	AB
C5407	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C5408	VCKYCY1CB104K		0.1 16V Ceramic	AB
C5409	VCSATA1AJ106M		10 10V Tantalum	AC
C6401	VCKYTV1AB105K		1 10V Ceramic	AD
C6402	RC-KZ0070TAZZ		Capacitor	AD
C6403	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C6404	VCSATA1AJ106M		10 10V Tantalum	AC
C6407	VCKYCY1CB104K		0.1 16V Ceramic	AB
C6408	RC-KZ0070TAZZ		Capacitor	AD
C6409	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C6410	VCSATA1AJ106M		10 10V Tantalum	AC
C6601	VCKYCY1HB102K		1000p 50V Ceramic	AA
C6602	VCKYCY1HB102K		1000p 50V Ceramic	AA
C6603	VCKYCY1AF105Z		1 10V Ceramic	AC
C6604	VCSAPD1CJ105M		1 16V Tantalum	AC
C6605	VCKYCY1CB333K		0.033 16V Ceramic	AA
C6606	VCSAPD1CJ105M		1 16V Tantalum	AC
C6607	VCSAPD1CJ105M		1 16V Tantalum	AC
C6608	VCSATA0JJ106M		10 6.3V Tantalum	AD
C6609	VCSAPD1CJ105M		1 16V Tantalum	AC
C6610	VCSAPD1CJ105M		1 16V Tantalum	AC
C6611	VCKYCY1CB473K		0.047 16V Ceramic	AA
C6612	VCKYCZ1EB562K		5600p 25V Ceramic	AB
C6613	VCKYCY1HB103K		0.01 50V Ceramic	AA
C6614	VCKYCY1CB683K		0.068 16V Ceramic	AC
C6615	VCKYCZ1CB153K		0.015 16V Ceramic	AB
C6616	VCKYCZ1CB153K		0.015 16V Ceramic	AB
C6617	VCCCCY1HH471J		470p 50V Ceramic	AA
C6618	VCSAPD1CJ105M		1 16V Tantalum	AC
C6619	VCKYCY1CB333K		0.033 16V Ceramic	AA
C6620	VCKYCY1CB473K		0.047 16V Ceramic	AA
C6621	VCKYCY1HB103K		0.01 50V Ceramic	AA
C6622	VCKYCZ1EB562K		5600p 25V Ceramic	AB
C6623	VCKYCY1CB683K		0.068 16V Ceramic	AC
C6624	VCKYCZ1CB153K		0.015 16V Ceramic	AB
C6625	VCKYCZ1CB153K		0.015 16V Ceramic	AB
C6626	VCCCCY1HH471J		470p 50V Ceramic	AA
C6627	VCSAPD1AJ225M		2.2 10V Tantalum	AC
C6628	VCSATE1AJ336M		33 10V Tantalum	AG
C6629	VCKYCZ1EB562K		5600p 25V Ceramic	AB
C6630	VCKYCZ1EB562K		5600p 25V Ceramic	AB
C6631	VCKYCY1EB223K		0.022 25V Ceramic	AA
C6632	VCKYCZ1EB562K		5600p 25V Ceramic	AB
C6633	VCSAPD1CJ105M		1 16V Tantalum	AC
C6634	VCKYCY1HB102K		1000p 50V Ceramic	AA
C6635	VCKYCY1HB102K		1000p 50V Ceramic	AA
C7402	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7404	VCCCCZ1HH120J		12p 50V Ceramic	AB
C7405	VCCCCZ1HH330J		33p 50V Ceramic	AB
C7406	VCCCCZ1HH470J		47p 50V Ceramic	AB
C7407	VCCCCZ1HH680J		68p 50V Ceramic	AB
C7408	VCCCCZ1HH151J		150p 50V Ceramic	AB
C7410	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7411	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7413	VCKYTV1AB105K		1 10V Ceramic	AD
C7451	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7454	VCSATA1AJ106M		10 10V Tantalum	AC
C7455	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7456	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7457	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7458	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7459	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7460	VCCCCZ1HH680J		68p 50V Ceramic	AB
C7461	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7462	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7463	VCCCCZ1HH101J		100p 50V Ceramic	AB
C7464	VCCCCZ1HH330J		33p 50V Ceramic	AB
C7465	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7466	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8303	VCCCCZ1HH100D		10p 50V Ceramic	AB
C8304	VCCCCZ1HH100D		10p 50V Ceramic	AB
C8305	VCCCCZ1HH150J		15p 50V Ceramic	AB
C8306	VCCCCZ1HH150J		15p 50V Ceramic	AB
C8307	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8308	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8309	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8310	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8311	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8312	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8313	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8314	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8315	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8316	VCSATA1AJ106M		10 10V Tantalum	AC
C8317	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8320	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8321	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8356	VCCCCZ1HH100D		10p 50V Ceramic	AB
C8358	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8359	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8361	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8362	VCCCCZ1HH121J		120p 50V Ceramic	AB
C8363	VCCCCZ1HH820J		82p 50V Ceramic	AB
C8364	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8365	VCKYCZ1HB471K		470p 50V Ceramic	AB
C8402	VCCCCZ1HH180J		18p 50V Ceramic	AB
C8403	VCCCCY1HH221J		220p 50V Ceramic	AA
C8404	VCKYCZ1HB332K		3300p 50V Ceramic	AA
C8405	VCCCCZ1HH360J		36p 50V Ceramic	AA
C8406	VCCCCY1HH271J		270p 50V Ceramic	AA
C8407	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8408	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8409	VCKYTV1AB105K		1 10V Ceramic	AD
C8411	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8452	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8453	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C9601	VCKYCZ1HB102K		1000p 50V Ceramic	AB

RESISTORS

R401	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R402	VRS-CZ1JF102D		1k 1/16W Metal Oxide	AA
R403	VRS-CZ1JF102D		1k 1/16W Metal Oxide	AA
R404	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R405	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R406	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R407	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R408	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R410	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R411	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R412	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R413	VRS-CZ1JF472D		4.7k 1/16W Metal Oxide	AB
R414	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R415	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R417	VRS-CZ1JF122D		1.2k 1/16W Metal Oxide	AB
R418	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R419	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R421	VRS-CZ1JF392J		3.9k 1/16W Metal Oxide	AA
R422	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R426	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R427	VRS-CZ1JF391D		390 1/16W Metal Oxide	AB
R429	VRS-CZ1JF471D		470 1/16W Metal Oxide	AA
R433	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R437	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R438	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R444	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R445	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R448	VRS-CZ1JF391D		390 1/16W Metal Oxide	AB
R449	VRS-CZ1JF471D		470 1/16W Metal Oxide	AA
R450	VRS-CZ1JF392J		3.9k 1/16W Metal Oxide	AA
R451	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R455	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R457	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R458	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R460	VRS-CZ1JF392J		3.9k 1/16W Metal Oxide	AA
R461	VRS-CZ1JF822J		8.2k 1/16W Metal Oxide	AA
R463	VRS-CZ1JF821J		820 1/16W Metal Oxide	AA

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
R465	VRS-CZ1JF221J		220 1/16W Metal Oxide	AA
R466	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R467	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R471	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R472	VRS-CZ1JF183J		18k 1/16W Metal Oxide	AA
R473	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R475	VRS-CZ1JF561J		560 1/16W Metal Oxide	AA
R476	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R477	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R478	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R479	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R480	VRS-CZ1JF183J		18k 1/16W Metal Oxide	AA
R481	VRS-CZ1JF202J		2k 1/16W Metal Oxide	AA
R482	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R499	VRS-CZ1JF182J		1.8k 1/16W Metal Oxide	AA
R601	VRK-SA1JF561J		560 1/16W Metal Composition	AC
R602	VRK-SA1JF224J		220k 1/16W Metal Composition	AC
R606	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R607	VRK-SA1JF153J		15k 1/16W Metal Composition	AD
R608	VRK-SA1JF561J		560 1/16W Metal Composition	AC
R609	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R610	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R611	VRS-CZ1JF682J		6.8k 1/16W Metal Oxide	AA
R612	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R613	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R614	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R615	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R616	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R617	VRS-CZ1JF474J		470k 1/16W Metal Oxide	AA
R618	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R620	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R622	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R623	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R626	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R627	VRS-CZ1JF183J		18k 1/16W Metal Oxide	AA
R628	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R629	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R630	VRS-CZ1JF564J		560k 1/16W Metal Oxide	AA
R631	VRS-CZ1JF474J		470k 1/16W Metal Oxide	AA
R632	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R642	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R643	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R644	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R645	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R646	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R649	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R650	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R651	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R652	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R653	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R701	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R703	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R704	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R706	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R708	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R709	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R712	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R714	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R716	VRK-SA1JF104J		100k 1/16W Metal Composition	AB
R719	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R720	VRS-CZ1JF224J		220k 1/16W Metal Oxide	AA
R721	VRS-CZ1JF224J		220k 1/16W Metal Oxide	AA
R722	VRS-CZ1JF224J		220k 1/16W Metal Oxide	AA
R723	VRK-SA1JF104J		100k 1/16W Metal Composition	AB
R725	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R726	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R727	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R728	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R729	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R730	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R731	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R732	VRS-CZ1JF183J		18k 1/16W Metal Oxide	AA
R733	VRS-CZ1JF682J		6.8k 1/16W Metal Oxide	AA
R734	VRS-CZ1JF563D		56k 1/16W Metal Oxide	AA
R735	VRS-CZ1JF154J		150k 1/16W Metal Oxide	AA
R736	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R737	VRS-CZ1JF334J		330k 1/16W Metal Oxide	AA
R738	VRS-CZ1JF154J		150k 1/16W Metal Oxide	AA
R739	VRS-CZ1JF224J		220k 1/16W Metal Oxide	AA
R740	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R741	VRK-SA1JF104J		100k 1/16W Metal Composition	AB
R743	VRK-SA1JF104J		100k 1/16W Metal Composition	AB
R745	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R746	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R748	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R749	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R751	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R752	VRK-SA1JF102J		1k 1/16W Metal Composition	AB
R754	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R755	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R756	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R757	VRS-CZ1JF224J		220k 1/16W Metal Oxide	AA
R758	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R759	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R760	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R761	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R762	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R763	VRS-CZ1JF220J		22 1/16W Metal Oxide	AA
R764	VRS-CZ1JF220J		22 1/16W Metal Oxide	AA
R765	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R766	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R767	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R768	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R769	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R770	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R771	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R772	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R773	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R774	VRS-TV1JD000J		0 1/16W Metal Oxide	AA
R775	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R776	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R777	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R778	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R779	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R800	VRS-CZ1JF271J		270 1/16W Metal Oxide	AA
R801	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R802	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R803	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R804	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R805	VRS-CZ1JF304D		300k 1/16W Metal Oxide	AA
R806	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R807	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R812	VRS-CZ1JF393D		39k 1/16W Metal Oxide	AB
R815	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R820	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R824	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R826	VRS-CZ1JF124J		120k 1/16W Metal Oxide	AA
R827	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R828	VRS-CZ1JF163J		16k 1/16W Metal Oxide	AA
R829	VRS-CZ1JF152D		1.5k 1/16W Metal Oxide	AB
R830	VRS-CZ1JF183D		18k 1/16W Metal Oxide	AB
R832	VRS-CZ1JF334J		330k 1/16W Metal Oxide	AA

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
R833	VRS-CZ1JF562J		5.6k 1/16W Metal Oxide	AA
R834	VRS-CZ1JF334J		330k 1/16W Metal Oxide	AA
R835	VRS-CZ1JF822J		8.2k 1/16W Metal Oxide	AA
R836	VRS-CZ1JF562D		5.6k 1/16W Metal Oxide	AB
R837	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R840	VRS-CZ1JF223D		22k 1/16W Metal Oxide	AB
R841	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R842	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R844	VRS-CZ1JF106J		10M 1/16W Metal Oxide	AA
R845	VRS-CZ1JF274J		270k 1/16W Metal Oxide	AA
R847	VRS-CZ1JF393D		39k 1/16W Metal Oxide	AB
R848	VRS-CZ1JF563J		56k 1/16W Metal Oxide	AA
R849	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R850	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R851	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R852	VRS-CZ1JF363D		36k 1/16W Metal Oxide	AA
R853	VRS-CZ1JF683D		68k 1/16W Metal Oxide	AB
R854	VRS-CZ1JF563J		56k 1/16W Metal Oxide	AA
R860	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R870	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R871	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R872	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R873	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R901	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R902	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R903	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R905	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R906	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R907	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R908	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R909	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R910	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R911	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R912	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R913	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R914	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R915	VRS-CZ1JF753J		75k 1/16W Metal Oxide	AA
R916	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R917	VRS-CZ1JF753J		75k 1/16W Metal Oxide	AA
R918	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R919	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R920	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R921	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R922	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R923	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R924	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R925	VRS-CZ1JF753J		75k 1/16W Metal Oxide	AA
R926	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R927	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R928	VRS-CZ1JF681J		680 1/16W Metal Oxide	AA
R929	VRS-CZ1JF121D		120 1/16W Metal Oxide	AB
R930	VRS-CY1JFR22J		0.22 1/16W Metal Oxide	AA
R936	VRS-CZ1JF562J		5.6k 1/16W Metal Oxide	AA
R942	VRS-CZ1JF683D		68k 1/16W Metal Oxide	AB
R943	VRS-CZ1JF472D		4.7k 1/16W Metal Oxide	AB
R944	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R945	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R946	VRS-CZ1JF182D		1.8k 1/16W Metal Oxide	AB
R947	VRS-CZ1JF752D		7.5k 1/16W Metal Oxide	AA
R948	VRS-CZ1JF472D		4.7k 1/16W Metal Oxide	AB
R949	VRS-CZ1JF472D		4.7k 1/16W Metal Oxide	AB
R950	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R951	VRS-CZ1JF222D		2.2k 1/16W Metal Oxide	AA
R963	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1401	VRS-CZ1JF102D		1k 1/16W Metal Oxide	AA
R1402	VRS-CZ1JF331D		330 1/16W Metal Oxide	AA
R1403	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R1407	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R1408	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R1409	VRS-CZ1JF103D		10k 1/16W Metal Oxide	AB
R1411	VRS-CZ1JF223D		22k 1/16W Metal Oxide	AB
R1412	VRS-CZ1JF751D		750 1/16W Metal Oxide	AB
R1413	VRS-CZ1JF102D		1k 1/16W Metal Oxide	AA
R1414	VRS-CZ1JF102D		1k 1/16W Metal Oxide	AA
R1415	VRS-CZ1JF102D		1k 1/16W Metal Oxide	AA
R1417	VRS-CZ1JF392J		3.9k 1/16W Metal Oxide	AA
R1418	VRS-CZ1JF392J		3.9k 1/16W Metal Oxide	AA
R1601	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1602	VRS-CY1JF563J		56k 1/16W Metal Oxide	AA
R1603	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R1604	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R1606	VRS-CZ1JF183J		18k 1/16W Metal Oxide	AA
R1607	VRS-CZ1JF183J		18k 1/16W Metal Oxide	AA
R1609	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R1610	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R1611	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R1613	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R1618	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1619	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R1800	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R1801	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R1802	VRS-CZ1JF104D		100k 1/16W Metal Oxide	AB
R1803	VRS-CZ1JF562J		5.6k 1/16W Metal Oxide	AA
R1804	VRS-CZ1JF222D		2.2k 1/16W Metal Oxide	AA
R1805	VRS-CZ1JF103D		10k 1/16W Metal Oxide	AB
R1806	VRS-CZ1JF474J		470k 1/16W Metal Oxide	AA
R1807	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R1808	VRS-CZ1JF272D		2.7k 1/16W Metal Oxide	AB
R1809	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R1810	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R1811	VRS-CZ1JF512J		5.1k 1/16W Metal Oxide	AB
R1812	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R1813	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R1814	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1815	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R1816	VRS-CZ1JF683J		68k 1/16W Metal Oxide	AA
R1817	VRS-CZ1JF562D		5.6k 1/16W Metal Oxide	AB
R1818	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R1819	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R1820	VRS-CZ1JF564J		560k 1/16W Metal Oxide	AA
R1821	VRS-CZ1JF124J		120k 1/16W Metal Oxide	AA
R1822	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R1823	VRS-CZ1JF683J		68k 1/16W Metal Oxide	AA
R1824	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R1825	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1826	VRS-CZ1JF564J		560k 1/16W Metal Oxide	AA
R1828	VRS-CZ1JF564J		560k 1/16W Metal Oxide	AA
R1831	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R1832	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R1833	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R1835	VRS-CZ1JF821J		820 1/16W Metal Oxide	AA
R1837	VRK-SB1FF471J		470 0.0315W Metal Composition	AB
R1839	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R1843	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R1846	VRK-SB1FF471J		470 0.0315W Metal Composition	AB
R1847	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R1849	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R1851	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R1853	VRS-CZ1JF561J		560 1/16W Metal Oxide	AA
R1854	VRS-CZ1JF303D		30k 1/16W Metal Oxide (H860S/H/H870S/H94E/EW/EX/ H96E/EW/EX)	AA
R1854	VRS-CZ1JF473D		47k 1/16W Metal Oxide (H890S/H960E/EW)	AB
R1855	VRS-CZ1JF561J		560 1/16W Metal Oxide	AA
R1856	VRS-CZ1JF561J		560 1/16W Metal Oxide	AA
R1857	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R1858	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1859	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R1860	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1863	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R1864	VRS-CZ1JF183D		18k 1/16W Metal Oxide	AB
R1866	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R1867	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R1872	VRS-CZ1JF100J		10 1/16W Metal Oxide	AA
R1901	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1902	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1903	VRS-CZ1JF473D		47k 1/16W Metal Oxide	AB

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
R1904	VRS-CZ1JF333D		33k 1/16W Metal Oxide	AB
R1905	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R1906	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R1907	VRS-CZ1JF153D		15k 1/16W Metal Oxide	AA
R1908	VRS-CZ1JF682J		6.8k 1/16W Metal Oxide	AA
R1909	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1910	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R1911	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1912	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1913	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R1914	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R1915	VRS-CZ1JF183J		18k 1/16W Metal Oxide	AA
R1916	VRS-CZ1JF562D		5.6k 1/16W Metal Oxide	AB
R1917	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R1918	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R1919	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R1920	VRS-CZ1JF472D		4.7k 1/16W Metal Oxide	AB
R1921	VRS-CZ1JF393D		39k 1/16W Metal Oxide	AB
R1922	VRS-CZ1JF104D		100k 1/16W Metal Oxide	AB
R1923	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R1924	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R1925	VRS-CZ1JF183D		18k 1/16W Metal Oxide	AB
R1926	VRS-CZ1JF222D		2.2k 1/16W Metal Oxide	AA
R1927	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1928	VRS-CZ1JF562D		5.6k 1/16W Metal Oxide	AB
R1929	VRS-CZ1JF823D		82k 1/16W Metal Oxide	AB
R1930	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R1931	VRS-CZ1JF223D		22k 1/16W Metal Oxide	AB
R1932	VRS-CZ1JF103D		10k 1/16W Metal Oxide	AB
R1933	VRS-CZ1JF681D		680 1/16W Metal Oxide	AB
R1934	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R1935	VRS-CZ1JF473D		47k 1/16W Metal Oxide	AB
R1936	VRS-CZ1JF563D		56k 1/16W Metal Oxide	AA
R1937	VRS-CZ1JF562D		5.6k 1/16W Metal Oxide	AB
R1938	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1939	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1940	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1941	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1942	VRS-CZ1JF331J		330 1/16W Metal Oxide	AA
R1943	VRS-CZ1JF183D		18k 1/16W Metal Oxide	AB
R1944	VRS-CZ1JF223D		22k 1/16W Metal Oxide	AB
R1945	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R1947	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R1948	VRS-CZ1JF182D		1.8k 1/16W Metal Oxide	AB
R1949	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R1950	VRS-CZ1JF393D		39k 1/16W Metal Oxide	AB
R1951	VRS-CZ1JF183D		18k 1/16W Metal Oxide	AB
R1952	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R1953	VRS-CZ1JF391J		390 1/16W Metal Oxide	AA
R1954	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R1955	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R2404	VRS-CZ1JF392D		3.9k 1/16W Metal Oxide	AB
R2406	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R2407	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R2408	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R2411	VRS-CZ1JF913D		91k 1/16W Metal Oxide	AA
R2414	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R2420	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R2461	VRS-CZ1JF331J		330 1/16W Metal Oxide	AA
R2462	VRS-CZ1JF681J		680 1/16W Metal Oxide	AA
R2701	VRS-CZ1JF224J		220k 1/16W Metal Oxide	AA
R2702	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R2703	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R2704	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R2705	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R2706	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R2707	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R2708	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R2709	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R2710	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R2711	VRS-CZ1JF683J		68k 1/16W Metal Oxide	AA
R2800	VRK-SB1FF102J		1k 0.0315W Metal Composition (H860S/H/H94E/EW/EX)	AC
R2803	VRS-CZ1JF102J		1k 1/16W Metal Oxide (H860S/H/H94E/EW/EX)	AA
R2805	VRS-CZ1JF102J		1k 1/16W Metal Oxide (H860S/H/H94E/EW/EX)	AA
R2806	VRS-CZ1JF102J		1k 1/16W Metal Oxide (H860S/H/H94E/EW/EX)	AA
R2807	VRS-CZ1JF102J		1k 1/16W Metal Oxide (H870S/H890S/H96E/EW/EX/ H960E/EW)	AA
R2808	VRK-SB1FF104J		100k 0.0315W Metal Composition (H860S/H)	AD
R2811	VRS-CZ1JF104J		100k 1/16W Metal Oxide (H860S/H/H94E/EW/EX)	AA
R2813	VRS-CZ1JF104J		100k 1/16W Metal Oxide (H860S/H/H94E/EW/EX)	AA
R2814	VRS-CZ1JF104J		100k 1/16W Metal Oxide (H860S/H/H94E/EW/EX)	AA
R2815	VRS-CZ1JF104J		100k 1/16W Metal Oxide (H870S/H890S/H96E/EW/EX/ H960E/EW)	AA
R2816	VRS-CZ1JF473J		47k 1/16W Metal Oxide (H870S/H890S/H96E/EW/EX/ H960E/EW)	AA
R2817	VRS-CZ1JF473J		47k 1/16W Metal Oxide (H870S/H890S/H96E/EW/EX/ H960E/EW)	AA
R2818	VRS-CZ1JF102J		1k 1/16W Metal Oxide (H870S/H890S/H96E/EW/EX/ H960E/EW)	AA
R2819	VRS-CZ1JF104J		100k 1/16W Metal Oxide (H870S/H890S/H96E/EW/EX/ H960E/EW)	AA
R2820	VRS-CZ1JF102J		1k 1/16W Metal Oxide (H870S/H890S/H96E/EW/EX/ H960E/EW)	AA
R2821	VRS-CZ1JF104J		100k 1/16W Metal Oxide (H870S/H890S/H96E/EW/EX/ H960E/EW)	AA
R2901	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R2902	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R2903	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R2905	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R2906	VRS-CZ1JF1R0J		1 1/16W Metal Oxide	AA
R2907	VRS-TQ2BD561J		560 1/8W Metal Oxide	AA
R2908	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R2910	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R2911	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R2912	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R2913	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R2914	VRS-CZ1JF184D		180k 1/16W Metal Oxide	AB
R2915	VRS-CZ1JF104D		100k 1/16W Metal Oxide	AB
R2921	VRS-CZ1JF1R0J		1 1/16W Metal Oxide	AA
R2922	VRS-CZ1JF1R0J		1 1/16W Metal Oxide	AA
R2923	VRS-CZ1JF1R0J		1 1/16W Metal Oxide	AA
R2925	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R2927	VRS-CZ1JF684J		680k 1/16W Metal Oxide	AA
R2928	VRS-CZ1JF684J		680k 1/16W Metal Oxide	AA
R2930	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R2931	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R2933	VRS-CZ1JF1R0J		1 1/16W Metal Oxide	AA
R2934	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R2935	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R2940	VRS-CZ1JF182J		1.8k 1/16W Metal Oxide	AA
R3701	VRS-CZ1JF821J		820 1/16W Metal Oxide	AA
R4401	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R4402	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R4403	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R4404	VRS-CZ1JF121D		120 1/16W Metal Oxide	AB
R4405	VRS-CZ1JF823D		82k 1/16W Metal Oxide	AB
R4407	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4409	VRS-CZ1JF683J		68k 1/16W Metal Oxide	AA
R4410	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R4411	VRS-CZ1JF821J		820 1/16W Metal Oxide	AA
R4412	VRS-CZ1JF911J		910 1/16W Metal Oxide	AA

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description			Code
R4413	VRS-CZ1JF681J		680	1/16W	Metal Oxide	AA
R4414	VRS-CZ1JF272J		2.7k	1/16W	Metal Oxide	AA
R4415	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R4416	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R4417	VRS-CZ1JF821J		820	1/16W	Metal Oxide	AA
R4418	VRS-CZ1JF911J		910	1/16W	Metal Oxide	AA
R4419	VRS-CZ1JF681J		680	1/16W	Metal Oxide	AA
R4420	VRS-CZ1JF272J		2.7k	1/16W	Metal Oxide	AA
R4421	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R4423	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R4451	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R4452	VRS-CZ1JF182J		1.8k	1/16W	Metal Oxide	AA
R4453	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R4701	VRS-TV1JD000J		0	1/16W	Metal Oxide	AA
R4702	VRS-TV1JD000J		0	1/16W	Metal Oxide	AA
R4703	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R4704	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R5401	VRS-CZ1JF332J		3.3k	1/16W	Metal Oxide	AA
R5402	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R5403	VRS-CZ1JF121D		120	1/16W	Metal Oxide	AB
R5404	VRS-CZ1JF823D		82k	1/16W	Metal Oxide	AB
R6401	VRS-CZ1JF360D		36	1/16W	Metal Oxide	AA
R6402	VRS-CZ1JF360D		36	1/16W	Metal Oxide	AA
R6403	VRS-CZ1JF360D		36	1/16W	Metal Oxide	AA
R6404	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R6405	VRS-CZ1JF390D		39	1/16W	Metal Oxide	AA
R6406	VRS-CZ1JF181J		180	1/16W	Metal Oxide	AA
R6407	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R6408	VRS-CZ1JF362J		3.6k	1/16W	Metal Oxide	AA
R6409	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R6410	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R6411	VRS-CZ1JF390D		39	1/16W	Metal Oxide	AA
R6417	VRS-CZ1JF360D		36	1/16W	Metal Oxide	AA
R6418	VRS-CZ1JF181J		180	1/16W	Metal Oxide	AA
R6419	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R6420	VRS-CZ1JF362J		3.6k	1/16W	Metal Oxide	AA
R6421	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R6422	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R6601	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R6602	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R6603	VRS-CZ1JF332D		3.3k	1/16W	Metal Oxide	AA
R6604	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R6605	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R6606	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R6607	VRS-CZ1JF183J		18k	1/16W	Metal Oxide	AA
R6608	VRS-CZ1JF393J		39k	1/16W	Metal Oxide	AA
R6609	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R6610	VRS-CZ1JF332D		3.3k	1/16W	Metal Oxide	AA
R6611	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R6612	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R6613	VRS-CZ1JF183J		18k	1/16W	Metal Oxide	AA
R6614	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R6615	VRS-CZ1JF393J		39k	1/16W	Metal Oxide	AA
R6616	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R6617	VRS-CZ1JF154J		150k	1/16W	Metal Oxide	AA
R6618	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R6619	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R6620	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R6621	VRS-CZ1JF154J		150k	1/16W	Metal Oxide	AA
R6622	VRS-CZ1JF392J		3.9k	1/16W	Metal Oxide	AA
R6623	VRS-CZ1JF392J		3.9k	1/16W	Metal Oxide	AA
R6625	VRS-CZ1JF154J		150k	1/16W	Metal Oxide	AA
R6627	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R6628	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R7401	VRS-CZ1JF101J		100	1/16W	Metal Oxide	AA
R7402	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R7403	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R7404	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R7405	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R7406	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R7407	VRS-CZ1JF331J		330	1/16W	Metal Oxide	AA
R7408	VRS-CZ1JF392J		3.9k	1/16W	Metal Oxide	AA
R7409	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R7410	VRS-CZ1JF152J		1.5k	1/16W	Metal Oxide	AA
R7411	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R7412	VRS-CZ1JF332J		3.3k	1/16W	Metal Oxide	AA
R7413	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R7457	VRS-CZ1JF472J		4.7k	1/16W	Metal Oxide	AA
R7458	VRS-CZ1JF472J		4.7k	1/16W	Metal Oxide	AA
R7459	VRS-CZ1JF123J		12k	1/16W	Metal Oxide	AA
R7460	VRS-CZ1JF392J		3.9k	1/16W	Metal Oxide	AA
R7461	VRS-CZ1JF562J		5.6k	1/16W	Metal Oxide	AA
R7462	VRS-CZ1JF183J		18k	1/16W	Metal Oxide	AA
R7463	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R7464	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R7465	VRS-CZ1JF182J		1.8k	1/16W	Metal Oxide	AA
R7466	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R7467	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R7468	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R7469	VRS-CZ1JF751J		750	1/16W	Metal Oxide	AA
R7470	VRS-CZ1JF821J		820	1/16W	Metal Oxide	AA
R7471	VRS-CZ1JF622J		6.2k	1/16W	Metal Oxide	AA
R7472	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R7473	VRS-CZ1JF183J		18k	1/16W	Metal Oxide	AA
R7474	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R7475	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R7479	VRS-CZ1JF332J		3.3k	1/16W	Metal Oxide	AA
R7480	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R7482	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R8301	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R8303	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R8305	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R8306	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R8307	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R8312	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R8315	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R8318	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R8319	VRS-CZ1JF203J		20k	1/16W	Metal Oxide	AA
R8320	VRS-CZ1JF152J		1.5k	1/16W	Metal Oxide	AA
R8325	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R8326	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R8327	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R8328	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R8329	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R8359	VRS-CZ1JF391J		390	1/16W	Metal Oxide	AA
R8360	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R8361	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R8362	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R8363	VRS-CZ1JF271J		270	1/16W	Metal Oxide	AA
R8365	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R8366	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R8367	VRS-CZ1JF331J		330	1/16W	Metal Oxide	AA
R8370	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R8374	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R8375	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R8377	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R8379	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R8380	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R8381	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R8382	VRS-CZ1JF821J		820	1/16W	Metal Oxide	AA
R8383	VRS-CZ1JF152J		1.5k	1/16W	Metal Oxide	AA
R8384	VRS-CZ1JF821J		820	1/16W	Metal Oxide	AA
R8385	VRS-CZ1JF221J		220	1/16W	Metal Oxide	AA
R8386	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R8401	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R8403	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R8404	VRS-CZ1JF621J		620	1/16W	Metal Oxide	AA
R8405	VRS-CZ1JF152J		1.5k	1/16W	Metal Oxide	AA
R8406	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R8407	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R8408	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R8409	VRS-CZ1JF561J		560	1/16W	Metal Oxide	AA
R8410	VRS-CZ1JF221J		220	1/16W	Metal Oxide	AA
R8411	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R8413	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R8414	VRS-CZ1JF183J		18k	1/16W	Metal Oxide	AA
R8415	VRS-CZ1JF272J		2.7k	1/16W	Metal Oxide	AA
R8416	VRS-CZ1JF152J		1.5k	1/16W	Metal Oxide	AA
R8417	VRS-CZ1JF152J		1.5k	1/16W	Metal Oxide	AA
R8418	VRS-CZ1JF152J		1.5k	1/16W	Metal Oxide	AA

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
R8419	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R8420	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R8422	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R8424	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R8451	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R8453	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R8454	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R8455	VRS-CZ1JF821J		820 1/16W Metal Oxide	AA
R8456	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R8457	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R9401	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9402	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R9403	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9404	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R9405	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9406	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R9407	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9408	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R9410	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R9411	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R9412	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R9414	VRS-CZ1JF822J		8.2k 1/16W Metal Oxide	AA
R9415	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R9416	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R9417	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R9422	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9423	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9426	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9429	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R9430	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R9431	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R9434	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R9437	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R9438	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R9440	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R9441	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R9442	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R9443	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R9444	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R9445	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R9446	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R9447	VRS-CZ1JF243J		24k 1/16W Metal Oxide	AA
R9448	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R9449	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R9451	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R9452	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R9453	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R9455	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9457	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9458	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R9459	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R9460	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R9493	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9495	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9496	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9499	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9601	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R9901	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9904	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9905	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9907	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9909	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

	PSLDM3239TAFW	Shield (H860S/H870S/H890S/H96E/EW/EX/H960E/EW)	AC
	PSLDM3341TAMS	Shield	AG
	PSLDM9146TAZZ	Shield	AE
	PSLDM9147TAZZ	Shield	AC
	QCNW-1925TAZZ	Connecting Cord	AC
	QCNW-1933TAZZ	Connecting Cord	AD
CN1800	QSOCN2486TAZZ	Socket, 24Pin	AE
CN2800	QSOCN0686TAZZ	Socket, 6Pin (H890S/H960E/EW)	AC
CN2801	QSOCN0607REN1	Socket, 6Pin (H870S/H96E/EW/EX)	AC
CN2802	QSOCN0860TAZZ	Socket, 8Pin	AE
CN7401	QCNCM7068TAZZ	Connector, 70Pin	AG
FB1801	RBLN-0028TAZZ	Balun, BLN-0028TA	AB
P902	QPLGN0364TAZZ	Plug, 3Pin	AC
P2901	QPLGN0664TAZZ	Plug, 6Pin	AD
P2902	QPLGN0863TAZZ	Plug, 8Pin	AD
P6601	QPLGN0364TAZZ	Plug, 3Pin	AC
P7401	QPLGN0264TAZZ	Plug, 2Pin	AC
SC601	QSOCN2286TAZZ	Socket, 22Pin	AD
SC901	QSOCN0787TAZZ	Socket, 7Pin	AC
SC902	QSOCN1986TAZZ	Socket, 19Pin	AF
SC903	QSOCN1886TAZZ	Socket, 18Pin	AD
SLD1	PSLDM3239TAFW	Shield (H860H/H94E/EW/EX)	AC
SLD2	PSLDM3238TAFW	Shield	AC

DUNTK2890QA00
CAMERA1 UNIT

INTEGRATED CIRCUITS

IC11	VHiUPD16510-1	UPD16510, V-Driver	AR
IC12	VHiLR38592/-1	LR38592, Timing Generator	AN
IC101	VHiCXA2096N-1	CXA2096N, CDS/AGC	AQ
IC151	VHiADS933Y/-1	ADS933Y, 10 Bit A/D Converter	AR
IC152	VHiTC7SH08U-1	TC7SH08U, Buffer	AF
IC501	RH-iX0747TAZZ	IX0747TA, Camera Micro Computer	AV
IC502	VHiMB8346BV-1	MB88346BV, D/A Converter	AN
IC503	VHiPST597KN-1	PST597KN, Reset-IC	AF
IC551	VHiMM1298XQ-1	MM1298XQ, Lens Driver	AV
IC552	VHiNJM2902V-1	NJM2902V, OP-Amp.	AD
IC553	VHiNJM3414V-1	NJM3414AV, OP-Amp.	AF

TRANSISTORS

Q11	VSHN2C01FU/-1	HN2C01FU	AC
Q552	VSRT1P140U/-1	RT1P140U	AB

DIODES

D501	VHDDA121///-1	DA121	AA
D551	VHDDA121///-1	DA121	AA

PACKAGED CIRCUIT

X11	RCRSZ0049TAZZ	Crystal, CRSZ0049TA	AL

COILS

L11	VPBWM470K2R6N	Peaking, 47µH	AC
L12	VPBWM100KR50N	Peaking, 10µH	AC
L101	VPBWM100KR50N	Peaking, 10µH	AC
L102	VPBWM100KR50N	Peaking, 10µH	AC
L151	VPBWM100KR50N	Peaking, 10µH	AC
L501	VPBWM100KR50N	Peaking, 10µH	AC
L551	VPBWM220K1R2N	Peaking, 22µH	AC
L552	VPBWM220K1R2N	Peaking, 22µH	AC

CAPACITORS

C11	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C12	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C13	VCSATA1DJ475M	4.7	20V	Tantalum	AC
C14	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C15	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C16	VCSATJ1VJ685M	6.8	35V	Tantalum	AE
C17	VCCCCZ1HH470J	47p	50V	Ceramic	AB
C18	VCCCCZ1HH470J	47p	50V	Ceramic	AB
C19	VCCCCZ1HH470J	47p	50V	Ceramic	AB
C20	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C21	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C22	VCSATA1AJ106M	10	10V	Tantalum	AC
C23	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C24	VCSATA1AJ106M	10	10V	Tantalum	AC
C25	VCKYCZ1HB102K	1000p	50V	Ceramic	AB

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
C26	VCSATA1AJ106M		10 10V Tantalum	AC
C28	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C29	VCCCCZ1HH820J		82p 50V Ceramic	AB
C102	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C103	VCKYCZ1EF223Z		0.022 25V Ceramic	AB
C104	VCKYTV1AB105K		1 10V Ceramic	AD
C105	VCKYTV1AB105K		1 10V Ceramic	AD
C106	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C107	VCSATA1AJ106M		10 10V Tantalum	AC
C108	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C109	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C154	VCCCCZ1HH470J		47p 50V Ceramic	AB
C155	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C156	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C157	VCSATA0JJ156M		15 6.3V Tantalum	AC
C158	VCSATA1AJ106M		10 10V Tantalum	AC
C159	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C160	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C161	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C162	VCCCCZ1HH330J		33p 50V Ceramic	AB
C163	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C164	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C165	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C501	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C502	VCSATA1AJ106M		10 10V Tantalum	AC
C503	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C504	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C505	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C551	VCSATE1CJ156M		15 16V Tantalum	AD
C553	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C554	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C555	VCKYCY0JF105Z		1 6.3V Ceramic	AB
C559	VCSATA1AJ106M		10 10V Tantalum	AC
C560	VCSATA1AJ106M		10 10V Tantalum	AC
C561	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C562	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C563	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C564	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C565	VCSATA1AJ106M		10 10V Tantalum	AC
C566	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C567	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C568	VCCCCZ1HH151J		150p 50V Ceramic	AB
C569	VCKYCY0JF105Z		1 6.3V Ceramic	AB
C570	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
FL13	RC-JZ0001TAZZ		Capacitor	AC

RESISTORS

R13	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R14	VRS-CZ1JF330J		33	1/16W	Metal Oxide	AA
R16	VRS-CZ1JF680J		68	1/16W	Metal Oxide	AB
R17	VRS-CZ1JF680J		68	1/16W	Metal Oxide	AB
R20	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R21	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R22	VRS-CY1JF150J		15	1/16W	Metal Oxide	AA
R26	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R28	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R29	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R30	VRS-CZ1JF183J		18k	1/16W	Metal Oxide	AA
R31	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R32	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R101	VRS-CZ1JF153D		15k	1/16W	Metal Oxide	AB
R102	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R103	VRS-CZ1JF244D		240k	1/16W	Metal Oxide	AA
R106	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R107	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R108	VRS-CZ1JF182J		1.8k	1/16W	Metal Oxide	AA
R109	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R110	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R111	VRS-CZ1JF562J		5.6k	1/16W	Metal Oxide	AA
R154	VRS-CZ1JF220J		22	1/16W	Metal Oxide	AA
R162	VRS-CZ1JF101J		100	1/16W	Metal Oxide	AA
R501	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R503	VRS-CZ1JF123J		12k	1/16W	Metal Oxide	AA
R504	VRK-SA1JF102J		1k	1/16W Metal Composition		AB
R505	VRK-SA1JF102J		1k	1/16W Metal Composition		AB
R508	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R509	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R510	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R511	VRS-CZ1JF103J		10k	1/16W (H94E/EW/EX/H96E/EW/EX/H960E/EW)	Metal Oxide	AA
R512	VRS-CZ1JF103J		10k	1/16W (H860S/H/H870S/H890S)	Metal Oxide	AA
R515	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R517	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R518	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R519	VRK-SA1JF102J		1k	1/16W Metal Composition		AB
R521	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R522	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R523	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R524	VRK-SA1JF103J		10k	1/16W Metal Composition		AB
R528	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R529	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R530	VRK-SA1JF102J		1k	1/16W Metal Composition		AB
R532	VRS-CZ1JF203J		20k	1/16W	Metal Oxide	AA
R533	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R537	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R538	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R561	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R563	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R569	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R570	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R571	VRS-CZ1JF392J		3.9k	1/16W	Metal Oxide	AA
R573	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R574	VRS-CZ1JF912J		9.1k	1/16W	Metal Oxide	AB
R575	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R576	VRS-CZ1JF393J		39k	1/16W	Metal Oxide	AA
R577	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R578	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R581	VRS-CZ1JF562J		5.6k	1/16W	Metal Oxide	AA
R582	VRS-CZ1JF334D		330k	1/16W	Metal Oxide	AA
R583	VRS-CZ1JF474J		470k	1/16W	Metal Oxide	AA
R584	VRS-CZ1JF221J		220	1/16W	Metal Oxide	AA
R585	VRS-CZ1JF221J		220	1/16W	Metal Oxide	AA
R586	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R587	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R588	VRS-CZ1JF472J		4.7k	1/16W	Metal Oxide	AA
R589	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R590	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R591	VRS-CZ1JF474J		470k	1/16W	Metal Oxide	AA
R592	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R593	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R594	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R595	VRS-CZ1JF272D		2.7k	1/16W	Metal Oxide	AB
R596	VRS-CZ1JF153D		15k	1/16W	Metal Oxide	AB
R597	VRS-CZ1JF244D		240k	1/16W	Metal Oxide	AA
R598	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R599	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

FB501	RBLN-0107TAZZ	Balun, BLN-0107TA	AB
SC2	QSOCN1986TAZZ	Socket, 19Pin	AF
SC3	QSOCN1886TAZZ	Socket, 18Pin	AD
SC6	QSOCN2086TAZZ	Socket, 20Pin	AD
CN1	QCNCW7089TAZZ	Connector, 70Pin	AG
	QCNW-1954TAZZ	Connecting Cord	AC

DUNTK2893QA00
CAMERA2 UNIT

INTEGRATED CIRCUITS

IC201	RH-iX0470TAZZ	IX0470TA, Digital Signal Process	AY

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
IC251	RH-iX0490TAZZ		IX0490TA, Electric Zoom	BB
IC252	VHiMS548331-1		IMS548331, Field Memory	BD
	TRANSISTORS			
Q201	VSHN2C01FU/-1		HN2C01FU	AC
Q202	VSHN2A01FU/-1		HN2A01FU	AC
Q203	VS2SC5383F/-1		2SC5383F	AB
	COILS			
L201	VPBWM100KR50N		Peaking, 10µH	AC
L202	VPCQM470K1R9N		Peaking, 47µH	AC
L203	VPD9M100J1R7N		Peaking, 10µH	AC
L204	VPD9M6R8J1R8N		Peaking, 6.8µH	AC
L205	VPD9M3R9J1R3N		Peaking, 3.9µH	AC
L207	VPBWM100KR50N		Peaking, 10µH	AC
L251	VPBWM100KR50N		Peaking, 10µH	AC
L252	VPBWM100KR50N		Peaking, 10µH	AC
	CAPACITORS			
C202	VCCCCZ1HH100D		10p 50V Ceramic	AB
C204	VCCCCZ1HH390J		39p 50V Ceramic	AB
C205	VCCCCZ1HH750J		75p 50V Ceramic	AB
C206	RC-KZ0051TAZZ		Capacitor	AC
C207	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C208	VCSATA1AJ106M		10 10V Tantalum	AC
C211	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C212	RC-KZ0051TAZZ		Capacitor	AC
C213	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C214	VCKYCZ1HB222K		2200p 50V Ceramic	AB
C215	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C216	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C217	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C218	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C219	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C220	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C221	VCKYCZ1HB222K		2200p 50V Ceramic	AB
C222	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C223	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C228	RC-KZ0051TAZZ		Capacitor	AC
C229	VCSATA0JJ156M		15 6.3V Tantalum	AC
C230	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C231	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C251	VCSATA0JJ156M		15 6.3V Tantalum	AC
C252	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C253	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C254	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C255	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C256	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C257	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C258	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C259	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C260	VCSATA0JJ156M		15 6.3V Tantalum	AC
C261	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
	RESISTORS			
R201	VRS-CZ1JF182J		1.8k 1/16W Metal Oxide	AA
R202	VRS-CZ1JF681J		680 1/16W Metal Oxide	AA
R205	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R206	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R207	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R208	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R209	VRS-CZ1JF683J		68k 1/16W Metal Oxide	AA
R210	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R212	VRS-CZ1JF392J		3.9k 1/16W Metal Oxide	AA
R213	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R214	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R215	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R216	VRS-CZ1JF822J		8.2k 1/16W Metal Oxide	AA
R217	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R218	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R219	VRS-CZ1JF682J		6.8k 1/16W Metal Oxide	AA
R220	VRS-CZ1JF471J		470 1/16W Metal Oxide	AA
R221	VRK-SA1JF224J		220k 1/16W Metal Composition	AC
R222	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R251	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R254	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R256	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
	MISCELLANEOUS PARTS			
FB201	RBLN-0120TAZZ		Balun, BLN-0120TA	AC
FB202	RBLN-0120TAZZ		Balun, BLN-0120TA	AC
P201	QPLGN0258REZZ		Plug, 2Pin	AD
SC4	QSOCN1986TAZZ		Socket, 19Pin	AF
SC5	QSOCN0860TAZZ		Socket, 8Pin	AE
SC9	QSOCN1860TAZZ		Socket, 18Pin	AE
CN2	QCNCM7058TAZZ		Connector, 70Pin	AG

DUNTK2895PM01
CCD UNIT

	INTEGRATED CIRCUIT			
IC2	VHiS24C08A/-1		S24C08A	AG
	TRANSISTORS			
Q1	VS2SK508///-1		2SK508	AE
Q2	VS2SC4627CD-1		2SC4627CD	AB
	DIODE			
D2	VHDDA121///-1		DA121	AA
	CAPACITORS			
C1	VCSATE1VJ335M		3.3 35V Tantalum	AD
C2	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C3	RC-KZ0056TAZZ		Capacitor	AD
C5	VCKYTV1EB104K		0.1 25V Ceramic	AB
C6	VCKYCZ1HB222K		2200p 50V Ceramic	AB
C7	VCKYTV1EB104K		0.1 25V Ceramic	AB
C8	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C9	RC-KZ0046TAZZ		Capacitor	AD
	RESISTORS			
R1	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R2	VRS-CZ1JF101J		100 1/16W Metal Oxide	AA
R3	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R7	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R9	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
	MISCELLANEOUS PART			
SC1	QSOCN1986TAZZ		Socket, 19Pin	AF

RAMP-0031TAN1
HEAD AMP UNIT

	INTEGRATED CIRCUITS			
IC301	VHiCXA2032Q-1		CXA2032Q	AN
IC302	VHiS24C02A/-1		S24C02A	AK
IC1701	VHiLB1950V/-1		LB1950V	AQ
IC1702	VHiLB1951V/-1		LB1951V	AN
IC1703	VHiLB1638M/-1		LB1638M	AK
	TRANSISTORS			
Q302	VS2SC4738Y/-1		2SC4738Y	AA
Q307	VS2SC4738Y/-1		2SC4738Y	AA
Q315	VSUMG2/////-1		UMG2	AC
Q341	VS2SA1037KQ-1		2SA1037KQ	AA
Q342	VS2SA1037KQ-1		2SA1037KQ	AA
Q343	VSUPDC144EE-1		UPDC144EE	AB
	COILS			
L303	VPCCM101K2R1N		Peaking, 100µH	AC
L304	VPCCM220KR45N		Peaking, 22µH	AC
L305	VPCCM101K2R1N		Peaking, 100µH	AC
L341	VPD9M100J1R7N		Peaking, 10µH	AC
L342	VPD9M101J100N		Peaking, 100µH	AC
L1701	VPCCM2R2MR09N		Peaking, 2.2µH	AC

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
L1702	VPCCM2R2MR09N		Peaking, 2.2µH	AC

CAPACITORS

C301	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C302	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C303	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C304	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C305	VCSATA1AJ106M	10	10V	Tantalum	AC
C306	VCSATA1AJ106M	10	10V	Tantalum	AC
C309	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C310	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C311	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C313	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C314	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C315	VCKYCY1HB472K	4700	50V	Ceramic	AA
C318	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C319	VCKYCY1EB103K	0.01	25V	Ceramic	AA
C320	VCKYCY1EB223K	0.022	25V	Ceramic	AA
C321	VCSATA1AJ106M	10	10V	Tantalum	AC
C322	VCKYCY1EB223K	0.022	25V	Ceramic	AA
C323	VCKYCY1EB103K	0.01	25V	Ceramic	AA
C324	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C325	VCSATA1AJ106M	10	10V	Tantalum	AC
C326	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C340	VCCCCY1HH101J	100p	50V	Ceramic	AA
C341	VCCCCY1HH151J	150p	50V	Ceramic	AA
C342	VCCCCY1HH101J	100p	50V	Ceramic	AA
C344	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C345	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C346	VCKYCY1HB102K	1000p	50V	Ceramic	AA
C347	VCSATA1AJ106M	10	10V	Tantalum	AC
C349	VCCCCY1HH680J	68	50V	Ceramic	AA
C1701	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C1702	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C1703	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C1704	VCKYCY1HB103K	0.01	50V	Ceramic	AA
C1705	VCKYCY1HB103K	0.01	50V	Ceramic	AA
C1706	VCKYCY1HB103K	0.01	50V	Ceramic	AA
C1707	VCSATA1AJ106M	10	10V	Tantalum	AC
C1708	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C1709	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C1710	VCKYCY1HB682K	6800	50V	Ceramic	AA
C1711	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C1712	VCKYCY1HB682K	6800	50V	Ceramic	AA
C1713	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C1714	VCKYTV1CF105Z	1	16V	Ceramic	AB
C1715	VCKYCY1CB473K	0.047	16V	Ceramic	AA
C1716	VCKYCY1CB473K	0.047	16V	Ceramic	AA
C1717	VCKYCY1HB472K	4700	50V	Ceramic	AA
C1718	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C1719	VCKYCY1CF104Z	0.1	16V	Ceramic	AA
C1720	VCSATA1CJ106M	10	16V	Tantalum	AC
C1721	VCKYCY1CF474Z	0.47	16V	Ceramic	AB
C1722	VCKYTV1CF105Z	1	16V	Ceramic	AB
C1723	VCKYCY1CF474Z	0.47	16V	Ceramic	AB
C1724	VCKYCY1CF474Z	0.47	16V	Ceramic	AB
C1725	VCCCCY1HH101J	100p	50V	Ceramic	AA
C1726	VCCCCY1HH101J	100p	50V	Ceramic	AA
C1727	VCKYCY1HF103Z	0.01	50V	Ceramic	AA
C1728	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C1730	VCKYTV1CF105Z	1	16V	Ceramic	AB

RESISTORS

R301	VRS-CY1JF473J	47k	1/16W	Metal Oxide	AA
R302	VRS-CY1JF273J	27k	1/16W	Metal Oxide	AA
R303	VRS-CY1JF152J	1.5k	1/16W	Metal Oxide	AA
R305	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
R306	VRS-CY1JF563J	56k	1/16W	Metal Oxide	AA
R307	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R308	VRS-CY1JF392J	3.9k	1/16W	Metal Oxide	AA
R313	VRS-CY1JF183J	18k	1/16W	Metal Oxide	AA
R316	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R317	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R321	VRS-CY1JF152J	1.5k	1/16W	Metal Oxide	AA
R323	VRS-CY1JF473J	47k	1/16W	Metal Oxide	AA
R329	VRS-CY1JF471J	470	1/16W	Metal Oxide	AA
R331	VRS-CY1JF102J	1k	1/16W	Metal Oxide	AA
R335	VRS-CY1JF273J	27k	1/16W	Metal Oxide	AA
R337	VRS-CY1JF181J	180	1/16W	Metal Oxide	AA
R338	VRS-CY1JF181J	180	1/16W	Metal Oxide	AA
R339	VRS-CY1JF100F	10	1/16W	Metal Oxide	AA
R340	VRS-CY1JF680J	68	1/16W	Metal Oxide	AA
R342	VRS-CY1JF271J	270	1/16W	Metal Oxide	AA
R343	VRS-CY1JF221J	220	1/16W	Metal Oxide	AA
R344	VRS-CY1JF223J	22k	1/16W	Metal Oxide	AA
R345	VRS-CY1JF333J	33k	1/16W	Metal Oxide	AA
R359	VRS-CY1JF474J	0.47	1/16W	Metal Oxide	AA
R360	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R361	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R363	VRS-CY1JF102J	1k	1/16W	Metal Oxide	AA
R390	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
R1701	VRN-CY1JF822D	8.2k	1/16W	Metal Oxide	AB
R1702	VRN-CY1JF822D	8.2k	1/16W	Metal Oxide	AB
R1703	VRS-CY1JF1R0J	1	1/16W	Metal Oxide	AA
R1704	VRN-CY1JF822D	8.2k	1/16W	Metal Oxide	AB
R1707	VRS-CY1JF105J	1M	1/16W	Metal Oxide	AA
R1708	VRS-CY1JF223J	22k	1/16W	Metal Oxide	AA
R1711	VRN-CY1JF103D	10k	1/16W	Metal Oxide	AA
R1712	VRS-CY1JF1R0J	1	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

SC301	QSOCN0985TAZZ	Connector, 9pin	AE
SC302	QSOCN1886TAZZ	Connector, 18pin	AD
SC303	QSOCN1560TAZZ	Connector, 15pin	AE
SC304	QSOCN0686TAZZ	Connector, 6pin	AC
SC305	QCNCW7068TAZZ	Connector, 70pin	AG
SC306	QSOCN1085TAZZ	Connector, 10pin	AE

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

MECHANISM PARTS

Ref. No.	Part No.	★	Description	Code
300	LCHSM0163GEZZ		Main Chassis Ass'y	AW
301	NGERH1280GEZZ		Main Cam	AD
302	NGERH1281GEZZ		Sub-Cam	AD
303	MLEVF0470GEFW		Eject Lever	AD
304	MLEVF0492GEFW		M Function Lever	AF
305	LHLDZ1966GEZZ		L Block Holder	AD
306	NGERW1064GEZZ		Worm Pulley	AC
307	NGERW1065GEZZ		Worm	AD
308	NGERH1282GEZZ		Worm Wheel	AC
309	NGERH1283GEZZ		Lo Relay Gear	AC
310	MARMM0126GEZZ		S Lo Arm Ass'y	AF
311	MARMM0128GEZZ		T Lo Arm Ass'y	AG
312	LANGA0069GEFW		S Lo Arm Retainer	AD
313	PGiDM0146GEZZ		Sup Rail	AD
314	PGiDM0171GEZZ		Tu Rail	AD
315	NGERH1284GEZZ		Sup Lo Gear	AC
316	NGERH1285GEZZ		Tu Lo Gear	AC
317	MSPRD0167GEZZ		S Lo Arm Double-Acting Spring	AE
318	MSPRT0407GEZZ		T Lo Arm Double-Acting Spring	AC
319	MLEVP0310GEZZ		HC Lever Ass'y	AF
321	MSLiF0074GEFW		Ten Arm Operation Lever	AD
322	PGiDM0148GEZZ		Ten Arm Guide	AC
323	NGERH3061GEZZ		Segment Gear	AD
324	MLEVF0472GEZZ		Tu Guide Ass'y	AC
325	PGiDP0027GEZZ		Tu Guide	AE
326	MSPRC0183GEZZ		Tu Guide Spring	AA
327	MSPRC0184GEZZ		Si Roller Spring	AA
328	MSPRC0208GEZZ		Tu Guide Lever Spring	AC
329	CCHSS0049GE01		Slide Chassis Ass'y	AR
330	MLEVF0495GEZZ		Ten Arm Ass'y	AC
331	LBNDK3023GEZZ		Ten Band Ass'y	AF
332	NiDR-0016GEZZ		Swing Gear Ass'y	AF
333	NGERH1286GEZZ		Driving Gear	AC
334	NGERH1287GEZZ		Pulley Gear	AD
335	NPLYV0157GEZZ		Relay Pulley	AD
336	MLEVP0284GEZZ		S Brake	AC
337	NGERH1288GEZZ		Tu Brake Gear	AC
338	MLEVP0285GEZZ		Tu Main Brake	AC
339	MLEVP0286GEZZ		Tu Sub-Brake	AC
340	MSPRD0169GEZZ		Tu Brake Spring	AD
341	LHLDZ2053GEZZ		Light Guide Holder Ass'y	AF
342	LANGG9102GEFW		Down Guide	AF
343	MSPRT0408GEZZ		Tension Spring	AD
344	MSPRD0186GEZZ		S Brake Spring	AD
345	CDRMU0032GE02		Upper Drum Ass'y	BF
346	PGiDM0154GEZZ		Tape Guide	AB
348	QBRSK0039GEZZ		Earth Spring	AD
349	PGiDM0143GEZZ		Drum Base	AG
350	DDRML0020HE01		Lower Drum Ass'y	AY
351	RMOTP1137GEZZ		Drum Motor	AS
352	PSPAQ0010GEZZ		Gap Adjusting Shim	AC
353	NRTR-0096GEZZ		R Tr Rotor Ass'y	AP
354	MSPRC0209GEZZ		Gr Adjusting Spring	AC
355	LPOLM0058GEZZ		S Pole Base	AK
356	LPOLM0059GEZZ		T Pole Base	AK
357	NDAiV1071GEZZ		Sup Reel Support	AG
358	NDAiV1072GEZZ		Tu Reel Support	AG
359	MLEVF0517GEZZ		Pinch Lever Ass'y	AS
360	NBLTT0012GEZZ		Timing Belt S	AE
361	NBLTT0013GEZZ		Timing Belt L	AE
362	NROLP0127GEZZ		Guide Roller Ass'y	
363	NROLP0129GEZZ		Si Roller Ass'y	
364	QPWBH5428GEZZ		Mode FPC	AK
365	CPWBN5639GE01		Sensor Ass'y	AV
366	QSW-M0042GEZZ		Recognition SW	AH
367	RDTCH0037GEZZ		Dew Sensor	AF
368	RMOTV1019GEZZ		Cap. Motor	AZ
369	RMOTM1075GEZZ		Load. Motor	AL
370	QSW-R0038GEZZ		Mode SW	AG
372	RAMP-0031TAN1		H/A PWB	—
374	TLABH0584GEZZ		Caution Label	AB
375	PSHEM0014GEZZ		Counter Balance	AC
376	PSHEP0013GEZZ		Interruption Sheet	AC
200	XAPSF17P03200		Screw M1.7x3.2	AA
201	LX-XZ3036GEFP		Screw M2.0x6.0	AD
202	LX-BZ3175GEFN		Screw M1.7x4.0	AC
203	LX-BZ3163GEFN		Screw M1.7x2.5	AC
204	LX-HZ3074GEFN		Screw M1.7x5.3 S Tight	AA
205	LX-BZ3177GEFF		Screw M1.4x1.5	AB
206	LX-BZ3132GEFF		Screw M1.4x1.5xD3.5	AA
207	LX-BZ3178GEZZ		Screw M1.4x1.5xD4.0	AD
208	LX-HZ3083GEFF		Screw M1.4x2.5 S Tight	AB
209	LX-HZ3077GEFN		Screw M1.4x3.0 S Tight	AA
211	LX-HZ3084GEFF		Screw M1.4x4.0 S Tight	AC
212	LX-HZ3116GEFD		Screw M1.4x3.2 S Tight	AB
213	LX-NZ3053GEZZ		Screw M1.4 Nut	AC
214	LX-WZ1076GE02		Washer D0.8xD3.0x0.2t Plastics	AA
215	LX-WZ1075GE02		Washer D2.1xD5.0x0.25t Plastics	AA
216	XWHJZ12-02040		Washer D1.2xD4.0x0.25t Plastics	AC
217	QCNW-1714TAZZ		Ground Lead Wire	AC

CABINET PARTS LIST

1	DCABA6204TAK1	V Cabinet Service	AK
1-2	PSPAG0095TAZZ	Cushion	AA
2	DCABB6204TAK1	L Cabinet Service (H860S/H/H870S/H94E/H96E)	AT
2	DCABB6205TAK1	L Cabinet Service (H890S/H960E)	AT
2-2	GCOVA1606TAZZ	Reseptor Cover	AC
2-3	GCOVA1607TAZZ	LED Cover	AC
2-4	GCOVH1243TASA	Jack Cover	AE
2-5	GPAD-0031TASA	Grip Pad	AD
2-6	HiNDP0209TASA	Jack Indicator	AD
2-7	QEARP0254TAFW	LCD Earth (H860S/H/H870S/H94E/H96E)	AF
2-7	QEARP0255TAFW	LCD Earth(H890S/H960E)	AF
2-8	TLABH0394TAZZ	Caution Label	AB
3	CCABC6101TAK1	Camera Front Cabinet Ass'y (H860S/H/H870S/H94E/H96E)	AS
3	CCABC6101TAK2	Camera Front Cabinet Ass'y(H890S/H960E)	AS
3-2	GCOVA1609TASA	Lens Hood	AF
3-3	GCOVA1610TASA	Front Cover (H860S/H/H870S/H94E/H96E)	AE
3-3	GCOVA1610TASB	Front Cover (H890S/H960E)	AE
3-4	GCOVA1611TASA	Hood Cover	AD
3-5	GCOVA1612TASA	Front Cabinet Grip Cover	AD
4	DCABD6097TAK1	Camera Rear Service (H870S/H890S/H96E/H960E)	AT
4	DCABD6097TAK2	Camera Rear Service (H860S/H/H94E)	
4-2	JBTN-0268TASA	Power Lock Button (H870S/H890S/H96E/H960E)	AF
4-2	JBTN-0268TASB	Power Lock Button (H860S/H/H94E)	
4-3	JBTN-0306TASA	Camera Button (H870S/H890S/H96E/H960E)	AG
4-3	JBTN-0306TASB	Camera Button (H860S/H/H94E)	
4-4	JKNBP0140TASD	Power Knob	AC
4-5	LHLDZ1411TAZZ	Lock Battery Holder	AC
4-6	LHLDZ1480TA00	Power Knob Holder	AD
4-7	MSPRC0083TAFJ	Power Lock Spring	AA
4-8	PCOVP9064TAZZ	Speaker Mesh	AD
5	DCOVA1613TAK2	Camera Side Service	AS
5-2	GFTAB1072TAKA	Battery Lid	AD
5-3	HDECP0052TASA	Battery Indicator	AC

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code
5-4	JKNBP0178TASA		Battery Lid Knob	AC
5-5	JKNBP0179TASA		Battery Lock Knob	AC
5-6	LANGK0469TA00		Battery Lid Angle	AE
5-7	LHLDZ1504TAZZ		Hand Strap Holder	AC
5-8	MSPRC0094TAFJ		Battery Lock Spring	AE
5-9	MSPRD0050TAFJ		Battery Lid Spring	AC
5-10	NSFTZ0049TAFW		Shaft	AC
5-11	PSPAZ0287TAZZ		Side Spacer	AB
5-13	UBNDT0123TAZZ		Hand Strap	AH
6	GCOVA1608TAKA		Microphone Cover	AF
7	GCOVA1615TAKA		VCR Grip Cover	AG
8	GFTAC1281TAKA		VCR Lid(H870S)	AR
8	GFTAC1282TAKA		VCR Lid(H890S)	AR
8	GFTAC1283TAKA		VCR Lid(H860S/H)	AR
8	GFTAC1294TAKA		VCR Lid(H94E)	AR
8	GFTAC1286TAKA		VCR Lid(H96E)	AR
8	GFTAC1290TAKA		VCR Lid(H960E)	AR
9	HBDGS0083TASA		LCD Badge	AD
10	JKNBP0176TASA		Open Knob	AC
11	LANGH0074TAFW		Reinforcement Angle	AG
12	LANGK0466TAFW		Eject Angle	AC
13	LHLDZ1500TA00		Lid Lock	AC
14	MSPRD0064TAFJ		VCR Lid Spring	AC
15	MSPRT0034TAFJ		Lock Spring	AC
16	NSFTZ0084TAFW		VCR Lid Shaft	AD
18	PSHEP0115TAZZ		Microphone Lead Sheet	AB
19	PSHEP0142TAZZ		Microphone Lead Sheet	
20	PSPAZ0269TAZZ		Microphone Protect Spacer	AA
21	RMiCC0086TAZZ		Microphone	AS
22	LANGK0470TAFW		Side Angle	AH
23	PSPAZ0208TA00		Mechanism Spacer	AC
24	LANGK0467TAZZ		Tripod Angle	AH
25	TLABM1968TAZZ		Model Label(H860S)	AD
25	TLABM1969TAZZ		Model Label(H860H)	AD
25	TLABM1970TAZZ		Model Label(H94E)	AD
25	TLABM1977TAZZ		Model Label(H870S)	AD
25	TLABM1979TAZZ		Model Label(H96E)	AD
25	TLABM1985TAZZ		Model Label(H890S)	AD
25	TLABM1987TAZZ		Model Label(H960E)	AD
26	LHLDB1030TAZZ		Lithium Holder	AC
27	PSHEP0124TAZZ		Reflection Sheet	AB
28	PSPAZ0286TAZZ		Turn SW Tape	AB
29	CCOVA1605TAK1		Tilt Fram C	AY
30	GCOVA1614TAKA		Tilt Fram V	AE
31	LANGH0075TAFW		Stopper Angle	AC
32	LANGH0076TAFW		Tilt Angle	AF
33	LHLDW1039TA00		FPC Holder	AD
34	MLEVP0042TAZZ		Eject Lever	AC
35	PSPAZ0189TAZZ		Rotation Spacer	AD
36	PSPAZ0277TA00		Tilt Spacer	AE
37	QPWBH2896TAZZ		Tilt FPC	AN
38	QSW-Z0324TAZZ		Eject/Turn Unit	AG
39	RUNTK0344TAZZ		Lithium Unit	AH
41	LHLDZ1519TAZZ		Holder for S.Unit	AG
42	QJAKZ0075TAZZ		DC Jack	
43	QJAKZ0070TAZZ		Rimocon/Jack Unit	AX
44	QSW-Z0322TAZZ		VCR Operation Unit (H870S/H890S/H96E/H960E)	AR
44	QSW-Z0323TAZZ		VCR Operation Unit (H860S/H/H94E)	AR
45	JKNBP0177TASA		Zoom Knob	AG
46	LHLDZ1518TAZZ		Speaker Holder	AG
47	PSHEP0115TAZZ		Microphone Lead Sheet	AB
48	QSW-Z0325TAZZ		Zoom Power Unit	AQ
49	VSP0028P-50WN		Speaker	AL
50	GCOVA1616TAKA		Camera Rear Cover	AG
51	QTANZ0141TAZZ		B Terminal Unit	AN
52	CLNSA0136TA01		Lens	BR
53	LHLDZ1499TA00		Lens Holder	AD
54	LANGK0468TAFW		Touch Angle(H870S/H96E)	AE
54	LANGK0471TAFW		Touch Angle (H890S/H960E)	AD
55	LHLDZ1503TAZZ		LCD Holder (H860S/H/H94E)	AG
55	LHLDZ1501TAZZ		LCD Holder(H870S/H96E)	AG
55	LHLDZ1502TAZZ		LCD Holder(H890S/H960E)	AG
56	PZETV0343TAZZ		LCD Fixing (H860S/H/H870S/H94E/H96E)	AA
56	PZETV0370TAZZ		LCD Fixing(H890S/H960E)	AB
57	PSPAZ0289TAZZ		Touch Panel Sheet (H870S/H96E)	AE
57	PSPAZ0290TAZZ		Touch Panel Sheet (H890S/H960E)	AF
58	QSW-Z0288TAZZ		Touch Panel (H870S/H96E)	BN
58	QSW-Z0303TAZZ		Touch Panel(H890S/H960E)	BM
⚠ 59	CLMPV0048TA02		Lamp Inverter Ass'y (H860S/H/H870S/H94E/H96E)	
⚠ 59	CLMPV0044TA01		Lamp Inverter Ass'y (H890S/H960E)	AZ
60	CPNLC0047RM01		LCD Panel Ass'y (H870S/H96E)	BZ
60	CPNLC0047RM02		LCD Panel Ass'y (H860S/H/H94E)	BZ
60	CPNLC0048RM01		LCD Panel Ass'y (H890S/H960E)	CD
61	PGiDM0037TAZZ		Light Guide Plate (H860S/H/H870S/H94E/H96E)	AG
61	PGiDM0030TAZZ		Light Guide Plate (H890S/H960E)	AH
62	PMiR-0021TAZZ		Refrection Polarizing Sheet (H860S/H/H870S/H94E/H96E)	AC
62	PMiR-0032TAZZ		Refrection Polarizing Sheet (H890S/H96E)	AD
63	PSHEP0045TAZZ		Diffusion Sheet (H860S/H/H870S/H94E/H96E)	AD
63	PSHEP0090TAZZ		Diffusion Sheet (H890S/H960E)	AD
64	PSHEP0070TAZZ		DBEF(H870S/H96E)	AN
64	PSHEP0092TAZZ		DBEF(H890S/H960E)	AN
65	PSHEP0044TAZZ		Prism Sheet(H860S/H/H94E)	AG
65	PSHEP0084TAZZ		Prism Sheet(H870S/H96E)	AG
65	PSHEP0125TAZZ		Prism Sheet(H890S/H960E)	
66	GFTAC1241TASA		Cassette Control Cover	AD
67	DUNTK2887PM00		VCR Unit(H860S)	—
67	DUNTK2887PM01		VCR Unit(H860H)	—
67	DUNTK2887PM02		VCR Unit(H94E/EW/EX)	—
67	DUNTK2887PM03		VCR Unit(H870S)	—
67	DUNTK2887PM05		VCR Unit(H96E/EW/EX)	—
67	DUNTK2887PM06		VCR Unit(H890S)	—
67	DUNTK2887PM08		VCR Unit(H960E/EW)	—
69	DUNTK2893PM00		CAMERA 2 Unit	—
70	DUNTK2890PM00		CAMERA 1 Unit	—
71	PSLDM3336TAFW		Camera A Shield	AD
72	PSLDM3337TAFW		Camera B Shield	AD
73	PSHEP0126TAZZ		DC Jack Sheet	AB
74	PSHEP0127TAZZ		AV Terminal Sheet	AB
75	PSHEP0128TAZZ		Audio Terminal Sheet	AB
76	PSPAZ0292TAZZ		Tilt Reinforcement Spacer	AC
77	QEARP0261TAFW		Earth Plate	
78	PSPAZ0228TAZZ		Spacer	AA
a	LX-HZ0018TAFN		M2x6 Tapping Screw, Silver	AA
b	LX-HZ0018TAFF		M2x6 Tapping Screw, Black	AA
c	LX-HZ0045TAFN		M2x4 Tapping Screw, Silver	AA
d	XiPSF20P04000		M2x4 Small Screw, Black Zinc Plating	AA
e	LX-BZ0191TAFD		M2 Special Screw	AC
f	XiPSD20P03000		M2x3 Screw	AA
g	LX-HZ0045TAFF		M2x4 Tapping Screw, Black	AA
h	LX-HZ0013TAFF		M1.7x6 Tapping Screw, Black	AA
i	XiPSN20P04000		M2x4 Small Screw, Silver	AA
j	LX-HZ0050TAFN		M1.7x4 Tapping Screw, Silver	AA
k	LX-BZ0236TAFD		M2x8 Screw	AB
l	XiPSF20P03000		M2x3 Screw, Black	AA

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VL-H96E/VL-H960E

Ref. No.	Part No.	★	Description	Code

CASSETTE HOUSING PARTS

400	CHLDX3077GE01	Cassette Compartment Ass'y	AY
401	MSPRT0414GEZZ	Up Main Spring	AD
402	MROD-0014GEFJ	Damper rod	AG
403	PDMP-0013GEZZ	Cassette Compartment Damper	AG

CAMERA UNIT PARTS

1	PCOVM8019TA00	Dust Protection Rubber	AC
2	LANGK0314TAFW	Sensor Holder	AC
3	PFiLW0062TAZZ	Crystal	AU
4	VHiiCX209AK-1	CCD Sensor	BK
5	DUNTK2895PM01	CCD Unit	—
6	LX-HZ0013TAFF	Screw (1.7 X 6)	AA

SUPPLIED ACCESSORIES

ACCESSORIES

	GCOVH1244TASA	Lens Cap	AG
	GCOVH1245TAZZ	Sun Hood (H870S/H890S/H96EX)	AQ
	GCOVH1246TAZZ	Sun Hood (H860S/H/H94EX)	AQ
⚠	QACCB0016TAZZ	AC Cord (H860H/H94EW/H96EW/H960EW)	AV
⚠	QACCK0002TAZZ	AC Cord (H860S/H870S/H890S/H94E/H96E/H960E)	AM
⚠	QACCL0020TAZZ	AC Cord(H94EX/H96EX)	AP
	QCNW-1906TAZZ	A/V Cable	AN
	QPLGA0010GEZZ	AC Plug (H94E/H96E/H960E)	AF
	RRMCG0074TASA	Remote Control	AP
	RCORF0038TAZZ	Ferrite Core(H96EX)	
	TiNSE0325TAZZ	Operation Manual A (H860H)	AL
	TiNSL0173TAZZ	Operation Manual A (H870S/H890S)	AX
	TiNSL0174TAZZ	Operation Manual B (H870S/H890S)	AX
	TiNSL0175TAZZ	Operation Manual A (H860S)	AX
	TiNSL0176TAZZ	Operation Manual B (H860S)	AX
	TiNSL0179TAZZ	Operation Manual A (H96E/EX/H960E)	AX
	TiNSL0180TAZZ	Operation Manual A (H96EW/H960EW)	AX
	TiNSL0183TAZZ	Operation Manual A (H94E/EX)	AW
	TiNSL0184TAZZ	Operation Manual A (H94EW)	AW
	TLABZ0495TAZZ	Remote Control Label (H94E/EW/H96E/EW/H960E/EW)	AG
⚠	UADP-0304TAZZ	AC Adapter	BC
	UBATi0059TAZZ	Battery Pack	BE
	UBATL0011TAZZ	Lithium Battery	AE
	UBNDS0010TASA	Shoulder Strap	AH

ACCESSORIES *(NOT REPLACEMENT ITEM)*

	TGANL0004TAZZ	Guarantee Card (H860S/H/H870S/H890S)	AC
	TLABK0001TAZZ	No. Card	AA

PACKING PARTS *(NOT REPLACEMENT ITEM)*

SPAKA6312TAZZ	Top Case	—
SPAKA6313TAZZ	Bottom Case	—
SPAKA6314TAZZ	Packing Case	—
SPAKC7447TAZZ	Packing Case(H860S)	—
SPAKC7448TAZZ	Packing Case(H870S)	—
SPAKC7449TAZZ	Packing Case(H890S)	—
SPAKC7456TAZZ	Packing Case(H860H)	—
SPAKC7457TAZZ	Packing Case(H94E/EX)	—
SPAKC7458TAZZ	Packing Case(H94EW)	—
SPAKC7462TAZZ	Packing Case(H96E/EX)	—
SPAKC7463TAZZ	Packing Case(H96EW)	—
SPAKC7464TAZZ	Packing Case(H960E)	—
SPAKC7465TAZZ	Packing Case(H960EW)	—
SPAKF0261TAZZ	AC Adapter Case	—
SPAKP6049TAZZ	Wrapping Paper	—
SSAKA0087TAZZ	Polyethylene Bag (H860H/H94E/EW/EX/H96E/EW/EX/H960E/EW)	—
SSAKA0088TAZZ	Polyethylene Bag (H860S/H870S/H890S)	—

VL-H860S/H/VL-H870S
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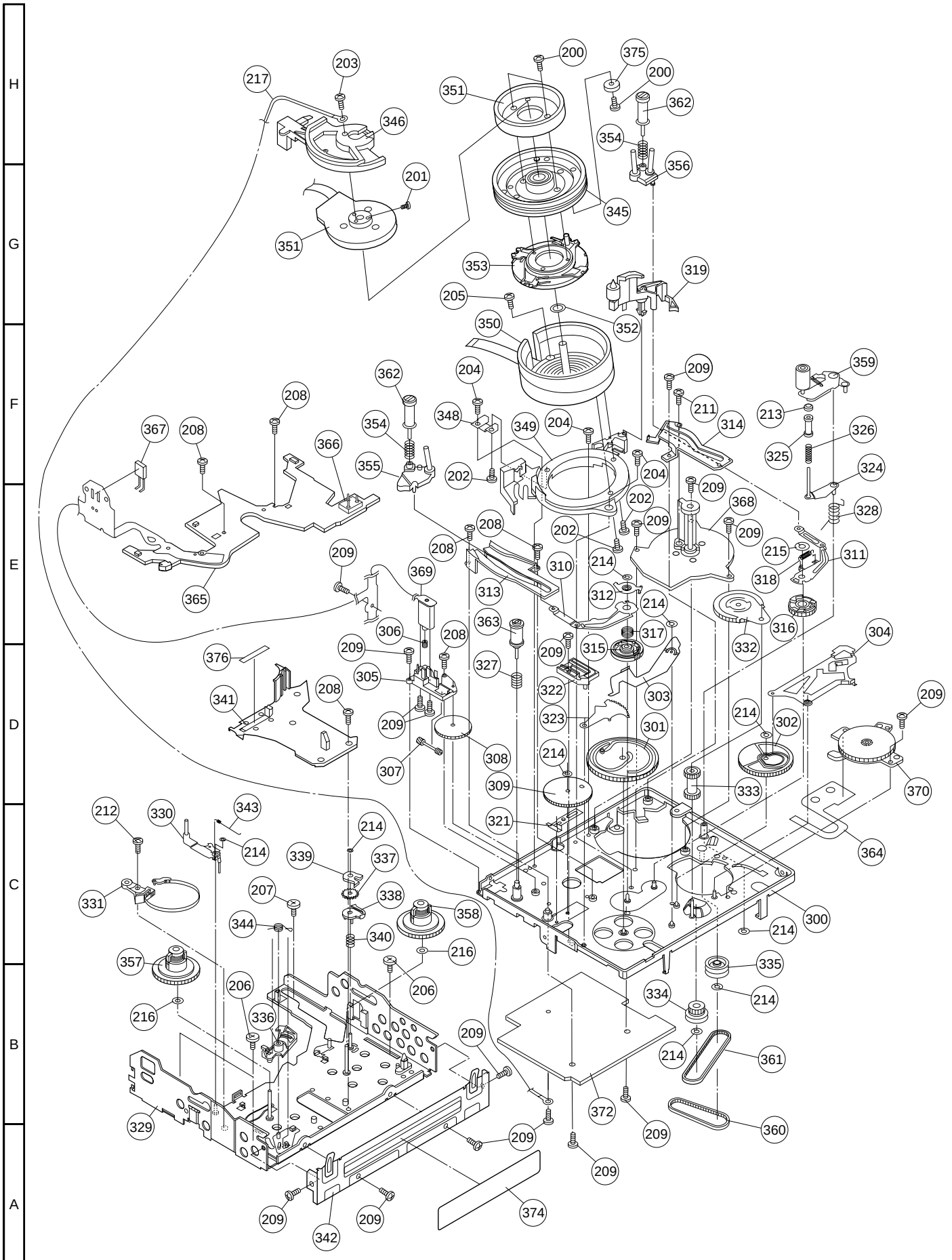
VL-H96E/VL-H960E

MECHANISM CHASSIS EXPLODED VIEW



VL-H860S/H/VL-H870S
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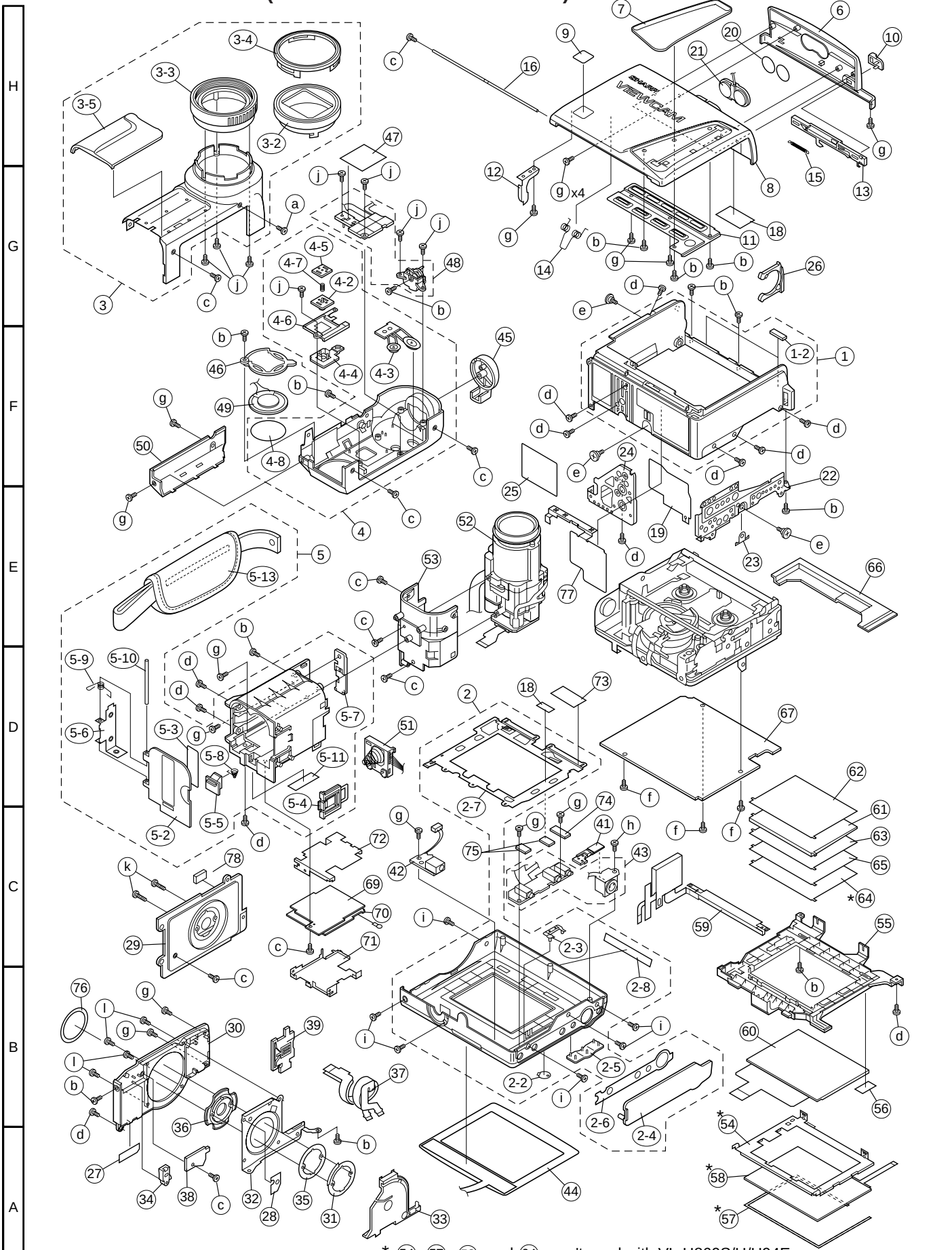
VL-H96E/VL-H960E

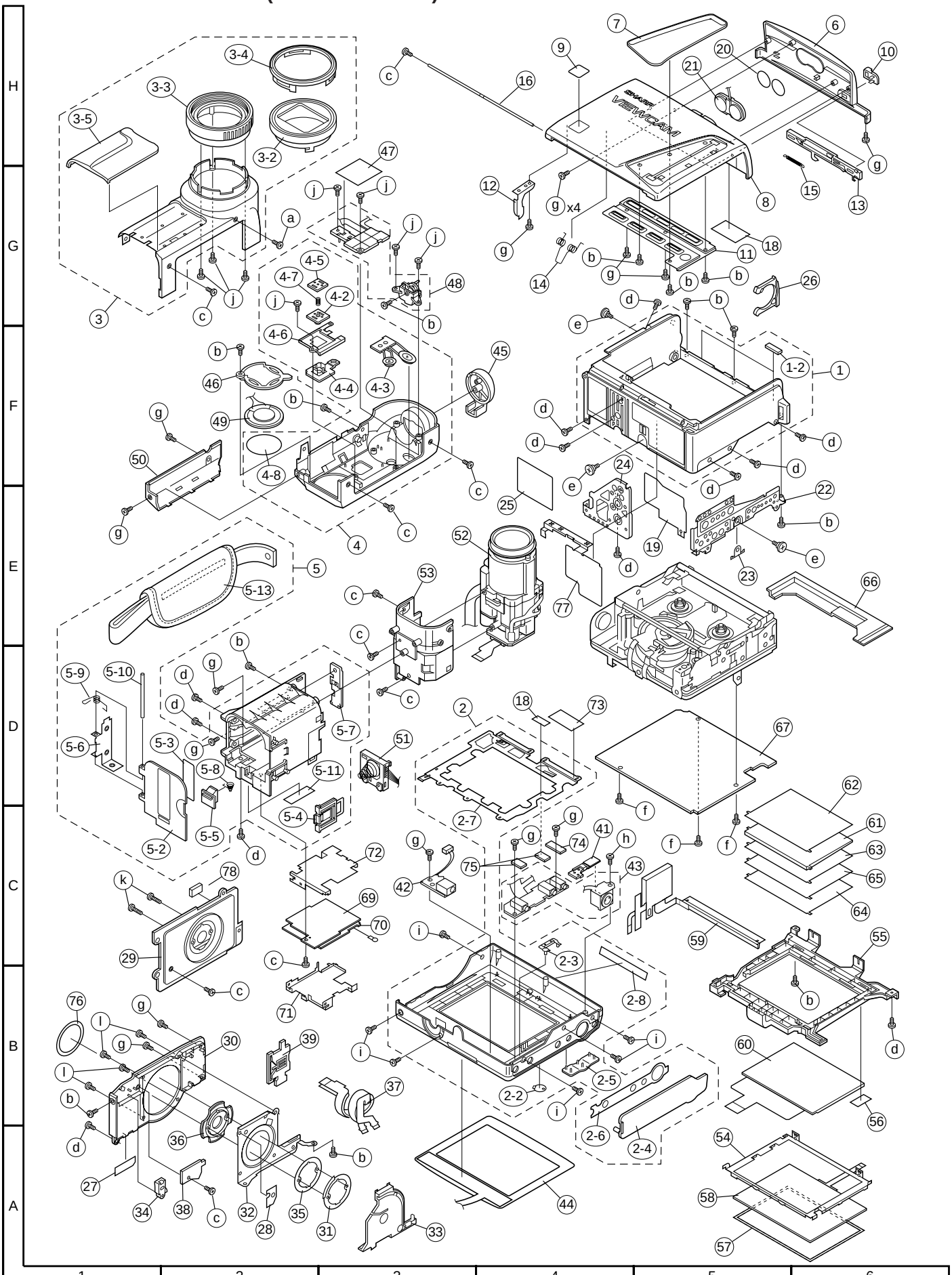
CABINET EXPLODED VIEW (VL-H860S/H/H870S/H94E/H96E)



* 54, 57, 58, and 64 aren't used with VL-H860S/H/H94E.

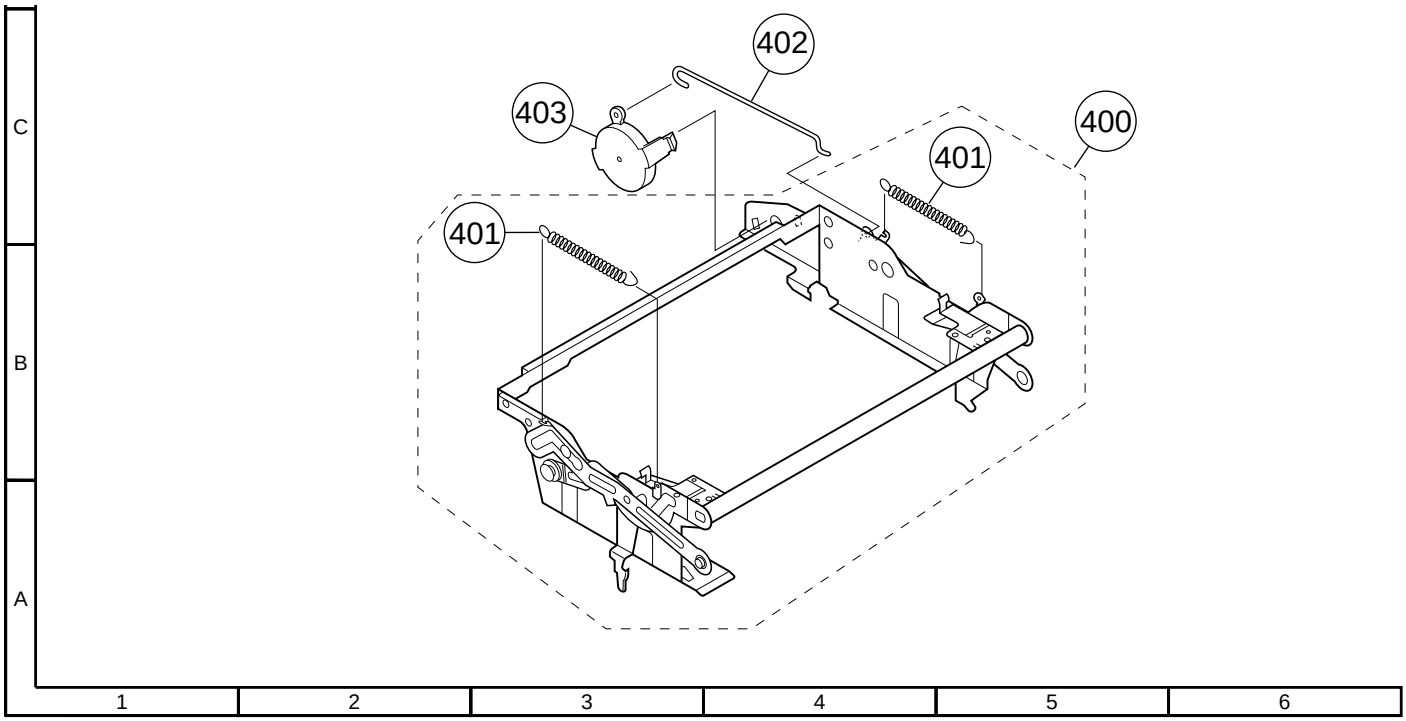
VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

CABINET EXPLODED VIEW (VL-H890S/H960E)

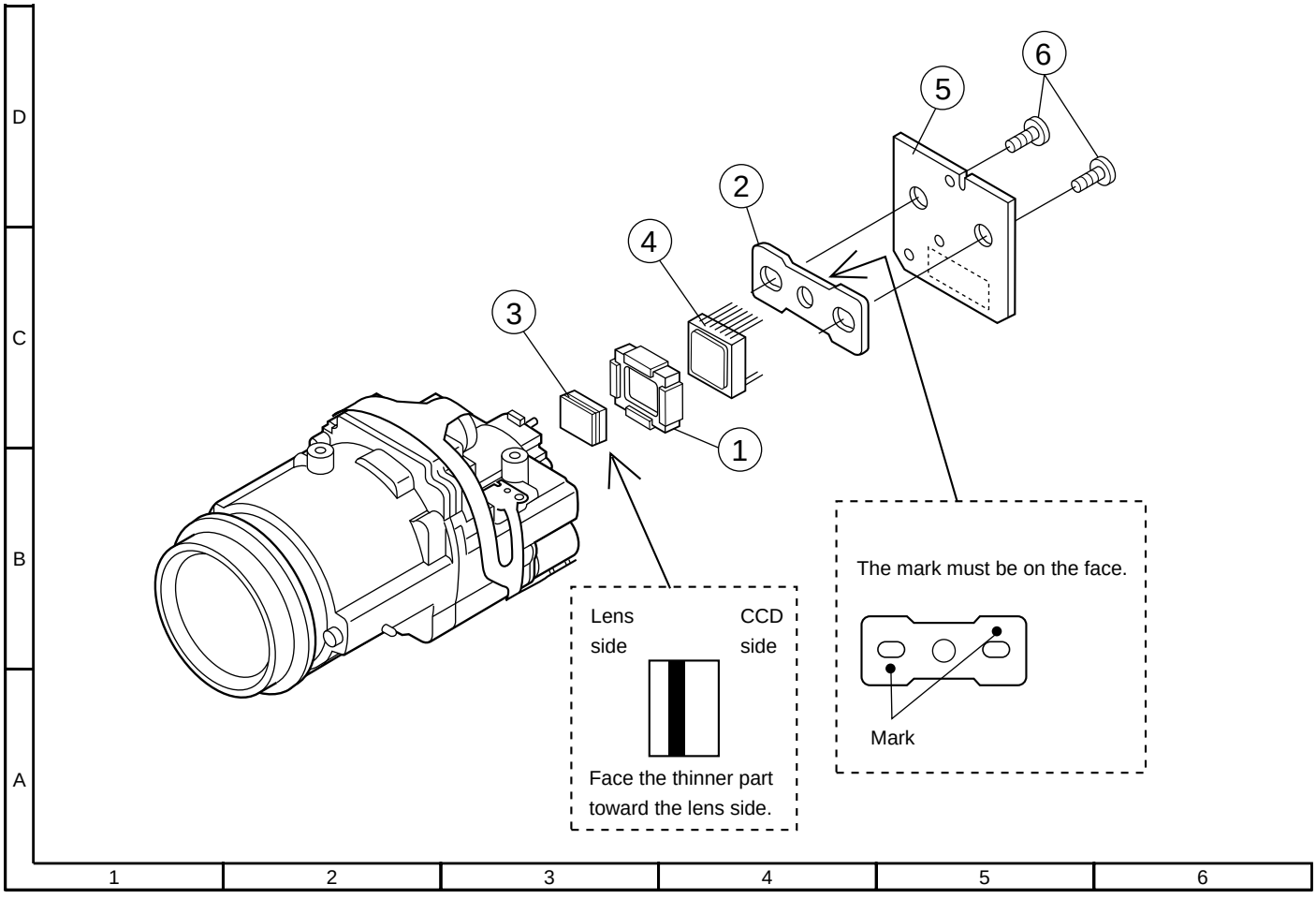


VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

CASSETTE HOUSING CONTROL UNIT

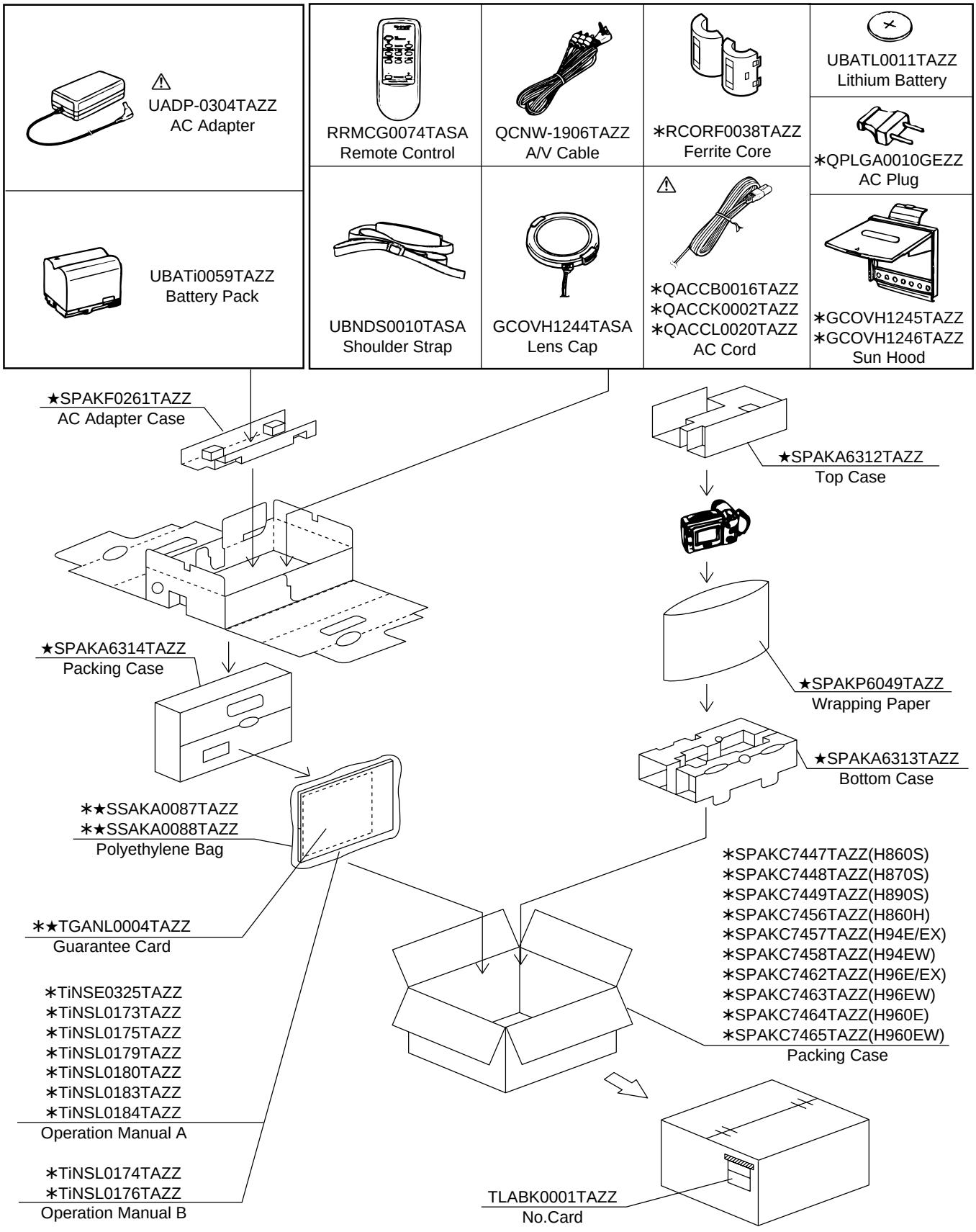


CAMERA UNIT EXPLODED VIEW



VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

11. PACKING OF THE SET



★ Not Replacement Item
∗ For detail, see page 10-17

VL-H860S/H/VL-H870S
VL-H890S/VL-H94E
VL-H96E/VL-H960E

- M E M O -

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